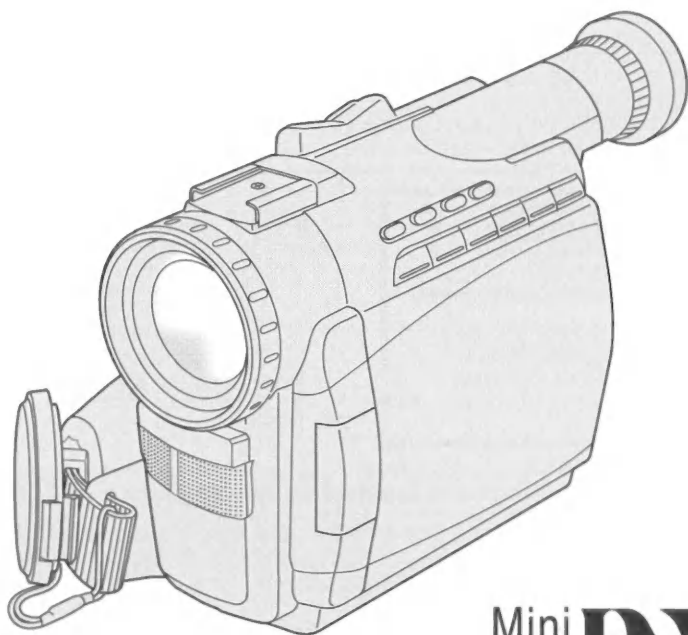


Digital Palmcorder®

Panasonic®

Digital Video Camcorder
Operating Instructions

Models No. **PV-DV51/
PV-DV101**



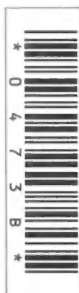
Mini **DV**

Before attempting to connect, operate or adjust this product, please read these instructions thoroughly.

Spanish Quick Use Guide is included.

Guía para rápida consulta en español está incluida.

**For assistance, please call : 1-800-211-PANA(7262) or
send e-mail to : consumerproducts@panasonic.com**



LSQT0473B

Things You Should Know

Thank you for choosing Panasonic!

You have purchased one of the most sophisticated and reliable products on the market today. Used properly, we're sure it will bring you and your family years of enjoyment. Please take time to fill in the information below. The serial number is on the tag located on the underside of your Palmcorder. Be sure to **retain this manual** as your convenient Palmcorder information source.

Date of Purchase _____

Dealer Purchased From _____

Dealer Address _____

Dealer Phone No. _____

Model No. _____

Serial No. _____

Safety Precautions

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

Your **Mini DV** Palmcorder is designed to record and play back in Standard Play (SP) mode and Long (LP) mode.

It is recommended that only cassette tapes that have been tested and inspected for use in VCR machines with the **Mini DV** mark be used.

**CAUTION**
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

The above markings are located on the appliance bottom cover.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when operated in a residential environment. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver. If necessary, consult the dealer or an experienced radio/TV technician for help. You may find the booklet, 'Something About Interference' available from FCC local regional offices helpful.

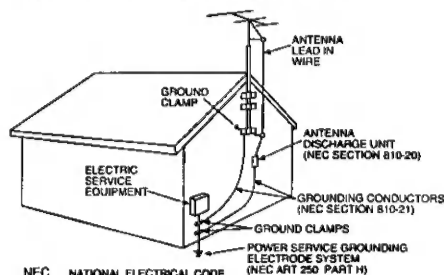
FCC Warning: To assure continued FCC compliance, use only the provided shielded interface cable when connecting digital video camera to computer in accordance with instruction herein. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate.

Important Safeguards

- 1 **Read Instructions** — All the safety and operating instructions should be read before the unit is operated
- 2 **Retain Instructions** — The safety and operating instructions should be retained for future reference
- 3 **Heed Warnings** — All warnings on the unit and in the operating instructions should be adhered to
- 4 **Follow Instructions** — All operating and maintenance instructions should be followed
- 5 **Cleaning** — Unplug this video unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for cleaning.
- 6 **Attachments** — Do not use attachments not recommended by the video product manufacturer as they may be hazardous.
- 7 **Water and Moisture** — Do not use this video unit near water — for example near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
- 8 **Accessories** — Do not place this video unit on an unstable cart, stand, tripod, bracket, or table. The video unit may fall, causing serious injury to a child or adult, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video unit. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
- 9 **Ventilation** — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video unit and to protect it from overheating. These openings must not be blocked or covered. Never place the video unit on a bed, sofa, rug, or other similar surface, or near or over a radiator or heat register. This video unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- 10 **Power Sources** — This video unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For video units intended to be operated from battery power, or other sources refer to the operating instructions.



- 11 **Grounding or Polarization** — This video unit may be equipped with either a polarized 2-wire AC (Alternating Current) line plug (a plug having one blade wider than the other) or 3-wire grounding type plug, a plug having a third (grounding) pin. The 2-wire polarized plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. The 3-wire grounding type plug will fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.
- 12 **Power-Cord Protection** — Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords of plugs, convenience receptacles, and the point where they exit from the unit.
- 13 **Outdoor Antenna Grounding** — If an outside antenna or cable system is connected to the video unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Part 1 of the Canadian Electrical Code, in USA Section 810 of the National Electrical Code, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.



- 14 **Lightning** — For added protection of this video unit receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video unit due to lightning and power line surges.

Important Safeguards

15. **Power Lines** — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
16. **Overloading** — Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
17. **Objects and Liquids** — Never push objects of any kind into this video unit through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind onto the video unit.
18. **Servicing** — Do not attempt to service this video unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
19. **Damage Requiring Service** — Unplug this video unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power-supply cord or plug is damaged.
 - b. If any liquid has been spilled into, or objects have fallen onto, the video unit.
 - c. If the video unit has been exposed to rain or water.
 - d. If the video unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video unit to its normal operation.
 - e. If the video unit has been dropped or the cabinet has been damaged.
 - f. When the video unit exhibits a distinct change in performance — this indicates a need for service.
20. **Replacement Parts** — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
21. **Safety Check** — Upon completion of any service or repairs to this video unit, ask the service technician to perform safety checks to determine that the video unit is in safe operating order.

Precautions

USE & LOCATION

- **TO AVOID SHOCK HAZARD ...** Your Palmcorder and power supply should not be exposed to rain or moisture. Do not connect the power supply or operate your Palmcorder if it gets wet. Your Palmcorder has been designed for outdoor use, however it is not designed to sustain direct exposure to water, rain, sleet, snow, sand, dust, or a direct splashing from a pool or even a cup of coffee. This action could permanently damage the internal parts of your Palmcorder. Do not attempt to disassemble this unit. There are no user serviceable parts inside. Unplug your Palmcorder from the power supply before cleaning.
- **DO NOT AIM YOUR PALMCORDER AT THE SUN OR OTHER BRIGHT OBJECTS**
- **DO NOT LEAVE THE PALMCORDER WITH THE EVF AIMED DIRECTLY AT THE SUN AS THIS MAY CAUSE DAMAGE TO THE INTERNAL PARTS OF THE EVF**
- **DO NOT EXPOSE YOUR PALMCORDER TO EXTENDED HIGH TEMPERATURE ...** Such as, in direct sunlight, inside a closed car, next to a heater, etc... This action could permanently damage the internal parts of your Palmcorder.
- **AVOID SUDDEN CHANGES IN TEMPERATURE ...** If the unit is suddenly moved from a cold place to a warm place, moisture may form on the tape and inside the unit.
- **DO NOT LEAVE YOUR PALMCORDER OR THE POWER SUPPLY TURNED ON WHEN NOT IN USE.**
- **STORAGE OF YOUR PALMCORDER ...** Store and handle your Palmcorder in a manner that will not subject it to unnecessary movement (avoid shaking and striking). Your Palmcorder contains a sensitive pick-up device which could be damaged by improper handling or storage.

CARE

- **TO CLEAN YOUR PALMCORDER ...** Do not use strong or abrasive detergents when cleaning your Palmcorder body.
- **TO PROTECT THE LENS ...** Do not touch the surface of the lens with your hand. Use a commercial Palmcorder lens solution and lens paper when cleaning the lens. Improper cleaning can scratch the lens coating.
- **TO PROTECT THE FINISH OF YOUR PALMCORDER ...** Before handling your Palmcorder, make sure your hands and face are free from any chemical products, such as suntan lotion, as it may damage the finish.

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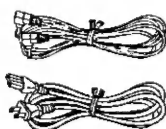
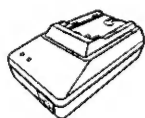
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Before Using

Unpack your Palmcorder

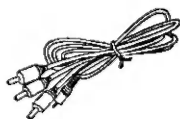
1 pc. AC Adaptor
(PV-DAC11)
with AC Cable and DC Cable



1 pc. Battery Pack
(PV-DBP8A)



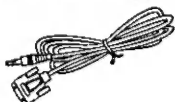
1 pc. A/V Cable
(LSJA0280)



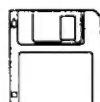
1 pc. Lens Cap
(LSYF0478)



1 pc. PC Connection
Cable for Windows
(LSJA0276)
(PV-DV101 only)



1 pc. PHOTOVU LINK
Driver (LSFT0251)
(PV-DV101 only)



1 pc. Shoulder
Strap (LSFC0013)



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Intel® Pentium® is a registered trademark.

i.LINK is a trademark.

PHOTOVU LINK is a registered trademark.

IBM is a registered trademark of IBM Company.

Record Speed/Playback Time

Use only those tapes having the  logo indicating the 6.35 mm digital standard.

Cassette type	Record Speed/ Playback time	
	SP	LP
AY-DVM30EA	30 minutes	45 minutes
AY-DVM60EA	60 minutes	90 minutes
AY-DVM80EA	80 minutes	120 minutes

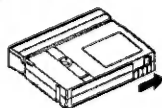
Erase Protection

Cassettes have a sliding record tab to ensure recordings are not accidentally erased.

- 1 To prevent accidental erasure:**
Slide the tab to the left (open).

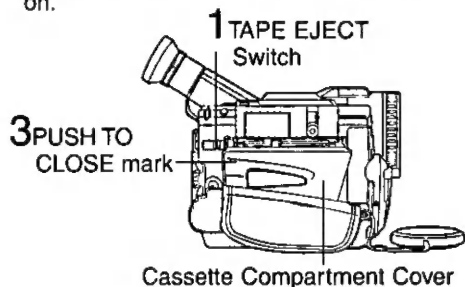


- 2 To record again:**
Slide the tab to the right (close).



Cassette Insertion/Removal

- If the Palmcorder is connected to a power source, the cassette can be inserted and ejected without turning the Palmcorder on.



Hint to locate recording position when inserting cassette

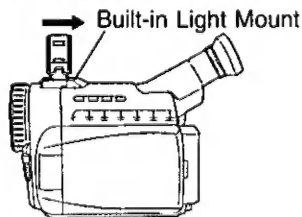
- When you insert a partially recorded cassette, use the Edit Search Function (see page 24) to visually confirm the point at which you want to start a new recording. Especially advisable when you want to add a recording to a tape that is already full.

Note

- If hand strap is tight it may prevent Cassette Compartment Cover from fully opening for tape insertion or ejection. Loosen hand strap if necessary.
- When inserting the cassette, make sure it faces in the right direction and then push in completely.

Using the Light (Optional)

To brighten the natural colors in a scene.



Note

- Using the light will reduce battery operating time.
- Be sure to provide adequate ventilation if using Light in a hot environment for an extended period.
- Be sure LIGHT is set to OFF when not in use.
- Do not attempt to lift or carry the Palmcorder by holding the Enhancement Light.
- If light bulb needs to be replaced, take Light to your nearest authorized servicenter.

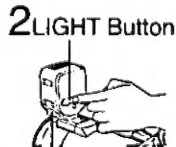
Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to CAMERA.

- 1 Slide Light into the Built-in Light Mount.

Be sure it locks into place.

- 2 Press LIGHT to turn ON or OFF.



LIGHT RELEASE Button

To remove the Light:

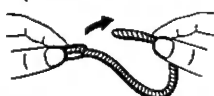

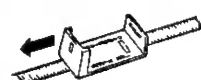
Press LIGHT RELEASE and slide the Light out of the mount.

Caution:

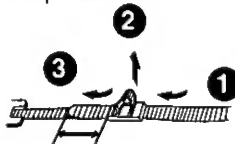
This light becomes hot during operation. Make sure nothing covers the Light during operation.

Before Using

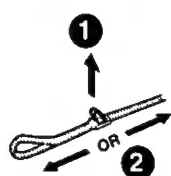
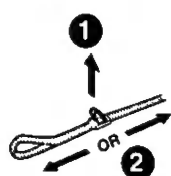
Attaching the Shoulder Strap

- 1** Undo the two strap ends from their buckles

- 2** Remove the buckle from one end of the strap

- 3** Thread the strap (with no buckle) through the Light Holder so that it faces outward. Then, reinsert the buckle


- 4** Thread the strap ends through the Strap Attachment Rings

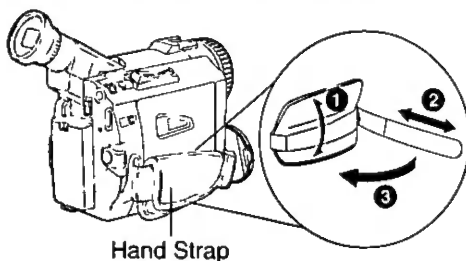

- 5** Reinsert the strap ends through their buckles
 - Make sure the straps are not twisted

Adjust the Length



- 1** Loosen the strap from the Buckle and create a loop

- 2** Pull the strap firmly through the Buckle to shorten or lengthen the strap


Hand Strap

Adjust the length of the Hand Strap to the size of your hand as illustrated



Attach the Light (Optional)

- 1** Insert the Light into the Light Holder for Storage

- 2** To remove the Light, press LIGHT RELEASE and slide Light out of the holder


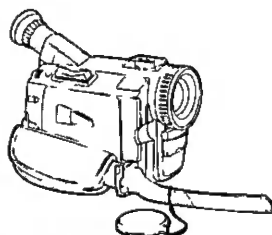
2 LIGHT RELEASE
Button

Light Holder

Lens Cap

Attaching the Lens Cap Cord to the Hand Strap

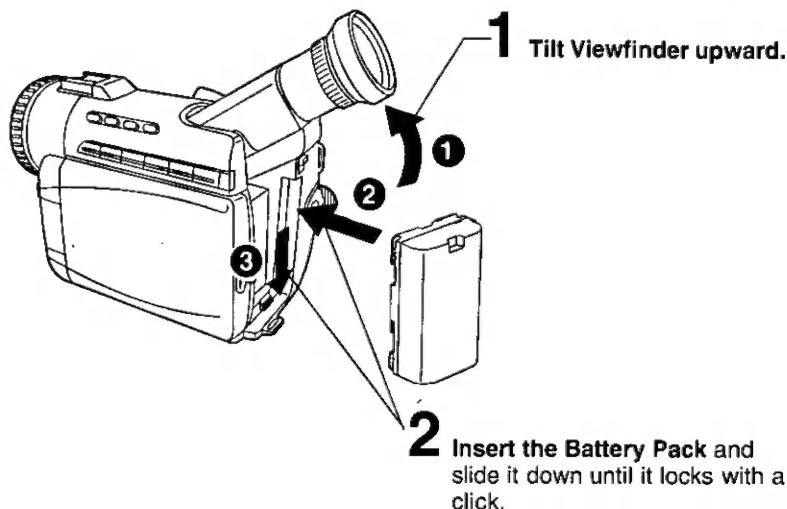
Remove the Hand Strap from the front clasp and thread the Strap through the loop in the Lens Cap Cord. Reattach the Hand Strap.



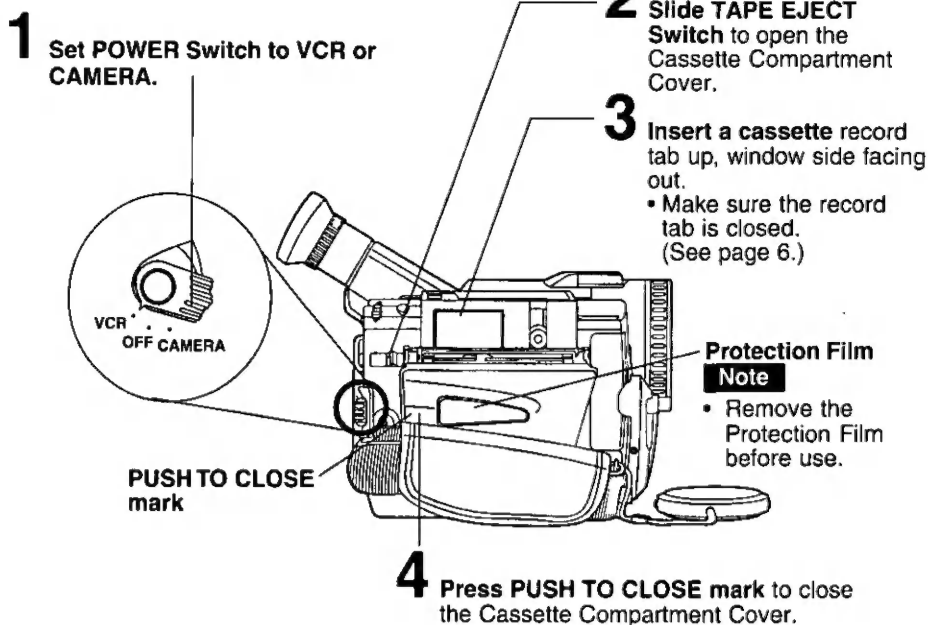
Insert the Battery Pack

Before you begin

- Charge the Battery. (See page 11.)



Insert Cassette

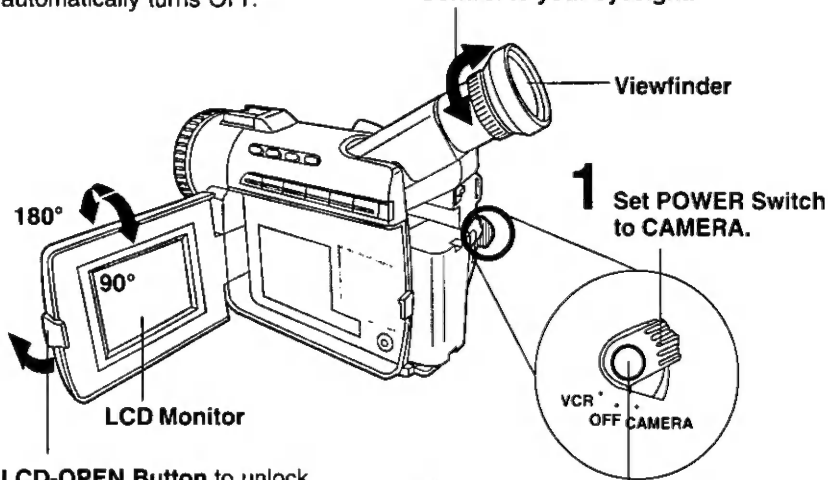


Quick Guide

Camera Recording

When the LCD monitor is fully open, the Viewfinder automatically turns OFF.

- 2** Adjust the Vision Adjustment Control to your eyesight.



- 3** Press LCD-OPEN Button to unlock the LCD monitor. Swing it fully open and adjust the angle.

- 4** Press REC/PAUSE Button to start recording. Press REC/PAUSE Button again to pause recording.

To Watch Playback in the LCD (Liquid Crystal Display)

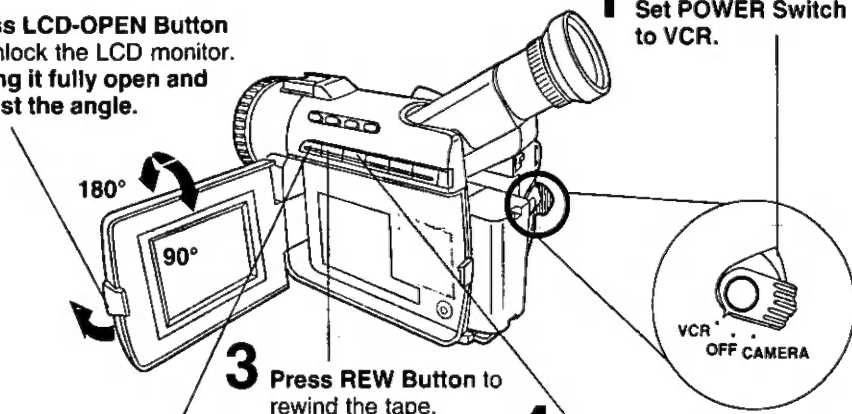
When the LCD monitor is fully open, the Viewfinder automatically turns OFF.

Before you begin

- Charge the Battery. (See page 11.)

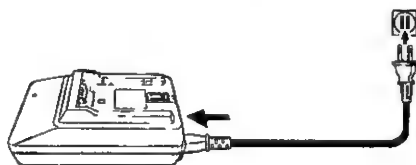
- 2** Press LCD-OPEN Button to unlock the LCD monitor. Swing it fully open and adjust the angle.

- 1** Set POWER Switch to VCR.



- 5** Press STOP Button to stop playback.

Charge the Battery Pack on the AC Adaptor



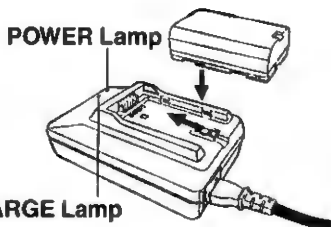
1 Connect and plug in the Power Cord as shown

- POWER Lamp will light
- Remove the DC Cable, if attached, from the adaptor

2 Attach the Battery as shown to charge

- CHARGE Lamp lights up. It goes out when charging is complete (approx 1 hour). Expect approx 1 hour 30 minutes of operation (EVF usage) when fully charged

3 Remove the Battery
Slide the Battery out and then lift up



Note

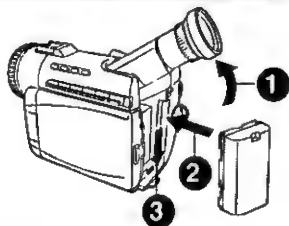
About the Flashing of the CHARGE Lamp

- Charge the Battery within an ambient temperature range of 10 °C and 30 °C
- If charging is done in extreme low or high temperatures, Battery charge time increases

CHARGE Lamp flashes when

- The Battery is being charged, but charging is taking longer than normal
- Charging is not possible. Remove the Battery once, wait a short time, then re-attach it for charging

Insert the Battery Pack



1 Tilt Viewfinder upward

2 Insert the Battery Pack and slide it down until it locks with a click

Remove the Battery Pack



To remove the Battery Pack.

Slide the Battery upward while sliding the BATTERY RELEASE Switch

Supplying Power

Battery Care

Caution

- Charge only with specified charger
- Charge the Battery within an ambient temperature range of 32° F (0° C) and 104° F (40° C)
- The Battery may be warm after charging or just after use. This is normal
- Do not use an insufficiently charged or worn out Battery
- If charging is done in extreme low or high temperatures, Battery charge time increases

Safety precautions:

- Do not get the Battery near, or dispose of in fire
- Do not directly connect (short circuit) the positive (+) and negative (-) terminals
- Never attempt to disassemble or reassemble the Battery

Use AC Adaptor

To avoid damage to the Battery:

- Do not drop or jar the Battery
- Use the Battery with specified models only
- If the Battery is used in extremely high temperatures, a safety device will automatically prevent operation

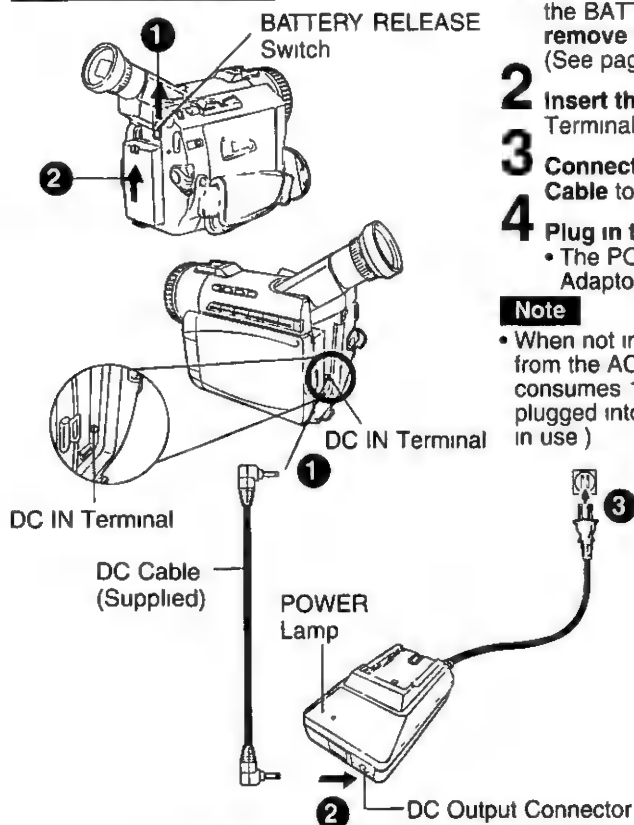
To insure longer battery life:

- While not in use, remove Battery from the Palmcorder and AC Adaptor and store in a cool, dark, dry place. If you leave the Battery in the Palmcorder or on the AC Adaptor, the Battery will no longer be rechargeable
- Keep the Battery terminals clean

- 1 Slide the Battery upward while sliding the BATTERY RELEASE Switch to remove the Battery Pack (See page 11)
- 2 Insert the DC Cable into the DC IN Terminal
- 3 Connect the other end of the DC Cable to the AC Adaptor as shown
- 4 Plug in the AC Adaptor
 - The POWER Lamp on the AC Adaptor lights up

Note

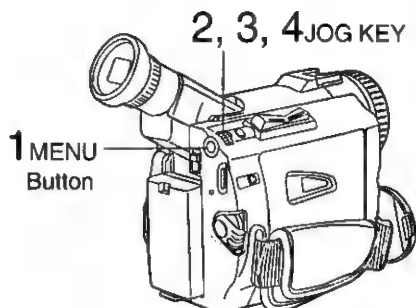
- When not in use, unplug the AC Adaptor from the AC outlet (AC Adaptor consumes 1W of electric power when plugged into an AC outlet even when not in use)



Setting the Clock

Set the Date and Time

The date and time is calculated, including leap year, up to DEC 31 2089.



EXAMPLE:

YEAR : 2001
 ↓ **(PUSH)** Push
MONTH : JAN
 ↓ **(PUSH)** Rotate
MONTH : FEB

Note

- To make corrections, Press JOG KEY repeatedly to move back to an item and correct.
- A built-in Battery maintains clock operation. If the Palmcorder is not connected to a power source for a few months, the built-in battery may discharge and "CLOCK BATTERY" indication appears. (See page 21.)

Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to CAMERA or VCR.

- Press **MENU** to display the Camera or VCR mode menu screen. (See page 14.)

[CAMERA MENU] [VCR MENU]

CAMERA MENU	VCR MENU
1: FUNCTION	1: PLAY FUNCTION
2: ADJUST	2: REC. MODE
3: REC. MODE	3: PLAY MODE
4: SET-UP	4: MULTI. SETTING
5: DISPLAY SETTING	5: DISPLAY SETTING
6: LCD/EVF SETTING	6: LCD/EVF SETTING
• SELECT: ROTATE JOG KEY	• SELECT: ROTATE JOG KEY
• SET : PUSH JOG KEY	• SET : PUSH JOG KEY
• EXIT : PUSH MENU KEY	• EXIT : PUSH MENU KEY

- Rotate **JOG KEY** to select **DISPLAY SETTING**, and then press **JOG KEY** to display the DISPLAY SETTING menu screen.

- Rotate **JOG KEY** to select **CLOCK SET**, and then press **JOG KEY** to set to ON. (See pages 16, 18.)
 - The DATE/TIME SETTING menu is displayed.

- Rotate **JOG KEY** to select the YEAR, then press **JOG KEY** to fix and move to the next item. Likewise, set the month, day, hour, and minute.

DATE/TIME SETTING	
YEAR	: 2001
MONTH	: OCT
DAY	: 18
HOUR	: 8PM
MINUTE	: 10
• SELECT: PUSH JOG KEY	
• SET : ROTATE JOG KEY	
• EXIT : PUSH MENU KEY	

When Date/Time setting is completed, press **MENU** three times to start the clock and exit.

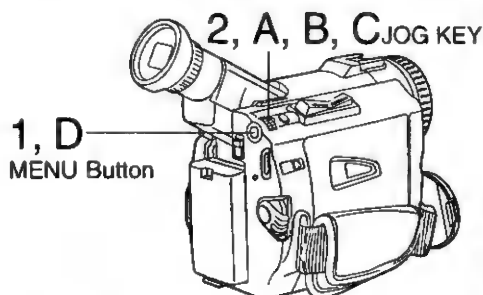
Using the Palmcorder Menu

The Palmcorder features two menu displays: one for CAMERA mode (recording) and the other for VCR mode (Playback). (See pages 15~18)

- While the Menu screen is displayed, you cannot record on or play a tape
- While recording, the Menu screen cannot be displayed
- During playback, the Menu screen can be displayed

Before you begin

- Connect the Palmcorder to a power source (See pages 11, 12)
- Set POWER to CAMERA or VCR



Displaying the MENU

- 1 Press **MENU** to display the CAMERA or VCR menu (according to the POWER Switch setting)
- 2 Rotate **JOG KEY** to select a menu item

Setting the MENU items (EX. VCR Mode menu)

- A Press **JOG KEY** to set your selection
- B Rotate **JOG KEY** to highlight a menu item
- C Press **JOG KEY** to set your selection
 - The "●" mark indicates selection
- D Press **MENU** twice to exit the menu

VCR PLAY FUNCTION	
D FUNCTION	OFF MIRROR
	STROBE MOSAIC
	SLIM TRAIL
	STRETCH
D EFFECT	OFF BEPIA
	MONO
SELECT	ROTATE JOG KEY
SET	PUSH JOG KEY
EXIT	PUSH MENU KEY

VCR PLAY FUNCTION	
D FUNCTION	OFF MIRROR
	STROBE MOSAIC
	SLIM TRAIL
	STRETCH
D EFFECT	OFF BEPIA
	MONO
SELECT	ROTATE JOG KEY
SET	PUSH JOG KEY
EXIT	PUSH MENU KEY

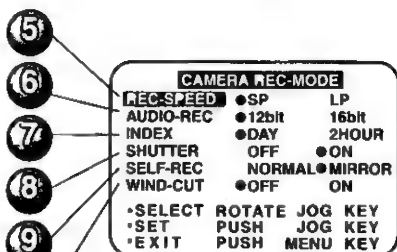
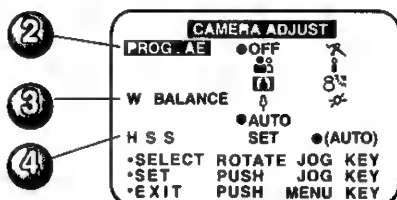
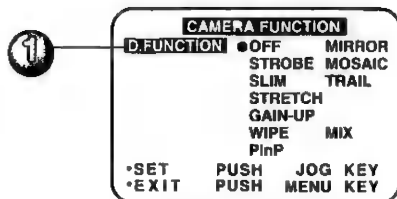
CAMERA Main menu

- 1 **D. FUNCTION**
CAMERA FUNCTION menu is displayed To select one of the 10 digital functions (MIRROR, STROBE, MOSAIC, SLIM, TRAIL, STRETCH, GAIN-UP, WIPE, MIX, or PinP)
- 2 **ADJUST**
CAMERA ADJUST menu is displayed To select PROG, AE, W, BALANCE, or H S S (High Speed Shutter)
- 3 **REC MODE**
CAMERA REC-MODE menu is displayed To select REC-SPEED, AUDIO-REC, INDEX, SHUTTER, SELF-REC, or WIND-CUT
- 4 **SET-UP**
CAMERA SET-UP menu is displayed To select REMOTE or BEEP
- 5 **DISPLAY SETTING**
DISPLAY SETTING menu is displayed To select DISPLAY, C RESET, DATE/TIME, or CLOCK-SET
- 6 **LCD/EVF SETTING**
LCD/EVFSETTING menu is displayed To select LCD BRIGHTNESS, LCD COLOR or EVF BRIGHTNESS

VCR Main menu

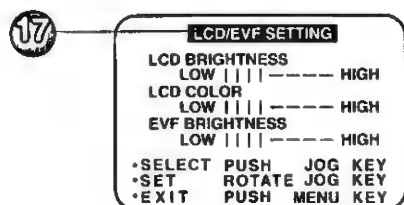
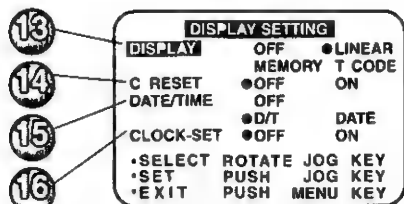
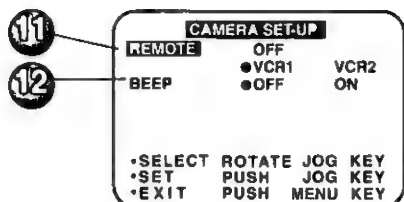
- 1 **PLAY FUNCTION**
VCR PLAY FUNCTION menu is displayed To select D FUNCTION or D EFFECT
- 2 **REC MODE**
VCR REC MODE menu is displayed To select REC-SPEED
- 3 **PLAY MODE**
VCR PLAY MODE menu is displayed To select INDEX, AUDIO, REMOTE, or B SEARCH
- 4 **MULTI SETTING**
MULTI SETTING menu is displayed To select SPEED
- 5 **DISPLAY SETTING**
DISPLAY SETTING menu is displayed To select DISPLAY, C RESET, DATE/TIME, or CLOCK-SET
- 6 **LCD/EVF SETTING**
LCD/EVFSETTING menu is displayed To select LCD BRIGHTNESS, LCD COLOR or EVF BRIGHTNESS

Camera Mode Menu Screen



- ① **DIGITAL FUNCTION** (See page 37)
To select one of the 10 digital functions. Setting to OFF cancels the previously selected digital function.
- ② **PROG. AE** (See page 36)
To select one of the 5 Program AE modes. Setting to OFF cancels the previously selected Program AE mode.
- ③ **W BALANCE** (See page 35)
To select one of the 3 White Balance modes.
- ④ **H S S (High Speed Shutter)** (See page 40)
To select a desired shutter speed.
- ⑤ **REC-SPEED** (See page 6)
SP Normal recording speed mode
LP Recording time is 1.5 times as long as in the SP mode. For example, 120 minutes of recording is possible on an 80 minute tape.
- ⑥ **AUDIO-REC** (See page 41)
12 bit The sound is recorded in the 12 bit/32 kHz mode.
16 bit The sound is recorded in the 16 bit/48 kHz high-quality mode.
- ⑦ **INDEX DAY** (See page 30)
An index signal is recorded when recording is restarted after the date has changed since the last recording.
2 HOUR An index signal is recorded when recording is restarted after a lapse of more than 2 hours.
- ⑧ **SHUTTER** (See page 34)
When set to ON, still pictures taken in the PhotoShot mode are recorded with a visual shutter effect and click sound.
- ⑨ **SELF-REC** (See page 23)
NORMAL During self-recording, the picture on the LCD Monitor is the same as it will be recorded.
MIRROR During self-recording, the picture on the LCD Monitor is horizontally reversed.
- ⑩ **WIND-CUT** (See page 22)
To reduce sound distortion caused by wind hitting the microphone. However, this slightly deteriorates the sound reproduction in the bass range.

MENU OSD



- 11 REMOTE** (See page 26)
- VCR1** To receive signals from the Remote Control, set to VCR1
- VCR2** To receive signals from the Remote Control, set to VCR2
- OFF** To prevent reception of signals from the Remote Control

- 12 BEEP**
- Set to ON to hear beep when starting and stopping camera recording or when unusual conditions occur To cancel the beep, set to OFF
- Palmcorder will beep
- Once when you start recording
 - Twice when you stop recording
 - Repeatedly when warning of unusual conditions (See page 21)

- 13 DISPLAY** (See page 19)
- To select the desired type of display and counter indication displayed on the LCD Monitor or in the viewfinder

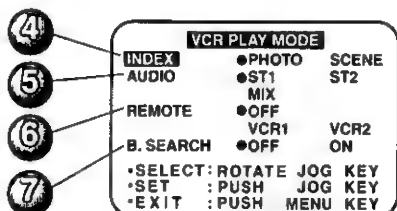
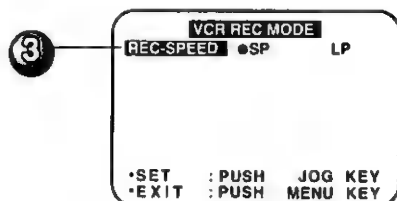
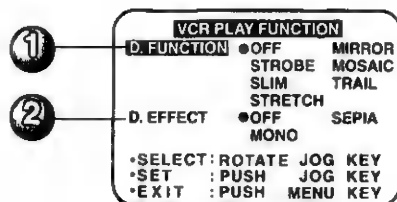
- 14 C RESET** (See page 19)
- Setting to ON resets the counter to zero

- 15 DATE/TIME** (See page 20)
- The date and time can be set and displayed on the screen

- 16 CLOCK-SET** (See page 13)
- When set to ON, the date and time can be set on the screen

- 17 LCD/EVF SETTING** (See page 23)
- Setting to ON displays the menu for adjusting the LCD brightness, LCD color level, and EVF brightness

VCR Mode Menu Screen



① **DIGITAL FUNCTION** (See page 37.)
To select one of the 6 digital functions. Setting to OFF cancels the previously selected digital function.

② **D. EFFECT** (See page 37.)
To select one of the 2 digital picture effects for playback. Setting to OFF cancels the previously selected digital effect.

③ **REC-SPEED** (See page 6.)
SP: Normal recording speed mode.
LP: Recording time is 1.5 times as long as in the SP mode. For example, 120 minutes of recording is possible on an 80 minute tape.

④ **INDEX** (See page 30.)
To select the desired Index Search function.

PHOTO: To search for PhotoShot pictures.

SCENE: To search for scenes marked with Index signal.

⑤ **AUDIO** (See page 42.)
To select the desired audio playback mode after performing audio dubbing in the 12 bit mode (SP mode only).

ST1: The original sound alone is played back.

ST2: The dubbed sound alone is played back.

MIX: The original sound and the dubbed sound are played back together.

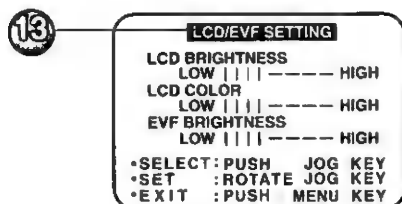
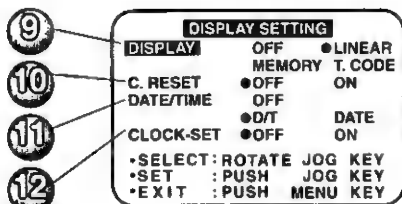
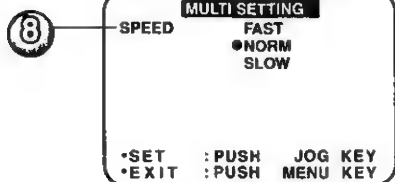
⑥ **REMOTE** (See page 26.)
VCR1: To receive signals from the Remote Control, set to VCR1.

VCR2: To receive signals from the Remote Control, set to VCR2.

OFF: To prevent reception of signals from the Remote Control.

⑦ **B.SEARCH (Blank Search)** (See page 25.)
Select ON to go directly to a blank portion of the tape.

MENU OSD



8 **SPEED** (See page 35.)
 In Strobe Multi mode, used to select the interval at which a succession of still screens are captured from the playback picture.

FAST : Every 0.3 seconds

NORM : Every 0.6 seconds

SLOW : Every 1.0 seconds

9 **DISPLAY** (See page 19.)
 To select the desired type of display and counter indication displayed on the LCD Monitor or in the viewfinder.

10 **C.RESET** (See page 19.)
 Setting to ON resets the counter to zero.

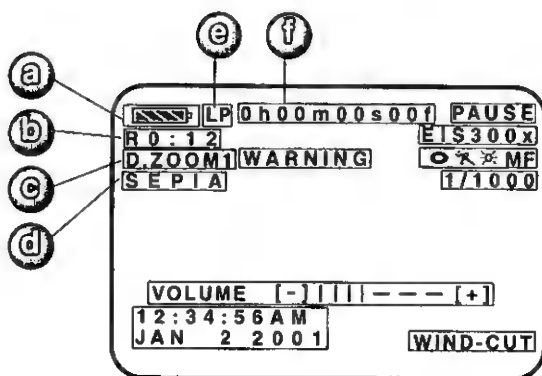
11 **DATE/TIME** (See page 20.)
 The date and time can be set and displayed on the screen.

12 **CLOCK-SET** (See page 13.)
 When set to ON, the date and time can be set on the screen.

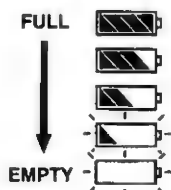
13 **LCD/EVF SETTING** (See page 23.)
 Setting to ON displays the menu for adjusting the LCD brightness, LCD color level, and EVF brightness.

Electronic Viewfinder/LCD Monitor Indications

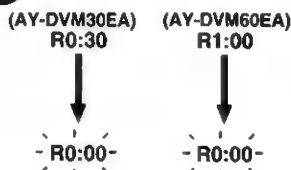
Here are some of the basic indications which will appear on the Palmcorder EVF and LCD Monitor. Only DATE/TIME indications will be recorded onto the tape.



(a) Battery Remaining



(b) Tape Remaining



- It will take several seconds for the tape remaining indicator to operate after the tape starts moving.

(c) Digital Zoom and other Digital Functions (See page 33.)

This display appears when the digital zoom function has been activated.

(d) Playback Effect (See page 37.)

This display appears when SEPIA or MONO is selected in VCR menu.

(e) Tape Speed Indication (See page 15.)

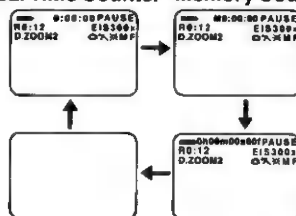
Indicates the tape speed (SP or LP).

(f) Display ON/OFF and Counter/Time Code

The indication switches as shown below when the desired "DISPLAY" mode is selected from the menu. (See pages 16, 18.)

- When OFF is selected, all displays are turned off.

Linear Time Counter Memory Counter



Time Code

Memory Counter M 0:00:00

The Palmcorder will stop whenever it reaches the point where the counter was previously set to M 0:00:00 during audio dub, fast forward, or rewind.

Time Code 0h00m00s00f

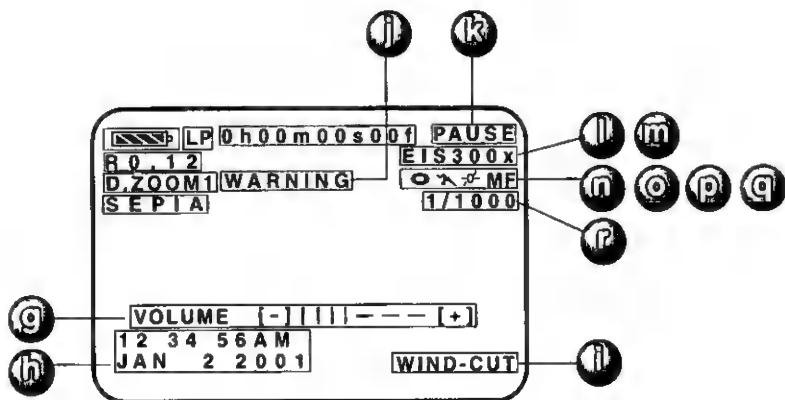
The Palmcorder calculates and displays exactly where you are on any tape in terms of hours, minutes, seconds, and frames (30 frames = 1 second).

- This display can not be reset.

IMPORTANT NOTE:

- Display must be set to ON for MF, AE, W.BALANCE or BACK LIGHT indications to be displayed on the EVF or LCD Panel when selected.
- C.RESET does not work when DISPLAY is set to OFF and T.CODE.

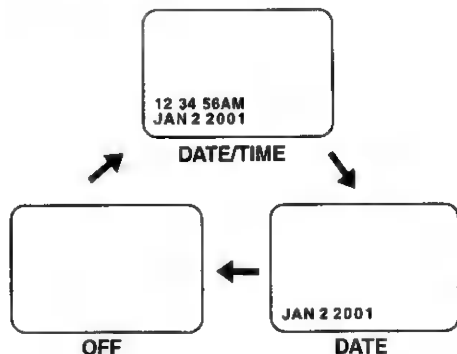
Electronic Viewfinder/LCD Monitor Indications



g Volume Display (See page 27)
The volume bar appears when the volume of the built-in speaker is being adjusted

h Date and Time Indication
(See pages 16, 18)

As shown below, the date and time indication changes each time DATE/TIME is selected from the Palmcorder's MENU (see pages 16, 18) or DATE/TIME is pressed on the remote (optional)



WIND-CUT indication
(See page 15)

WARNING indication
(See page 21)
The warning displays appear in the EVF and the LCD monitor

k Tape Mode Indications

REC	Recording
PHOTO	PhotoShot recording
PAUSE	Paused during recording
PLAY	Playback
R ▷	Repeat Playback
CHK	Recording Check
FF	Fast forward
REW	Rewind
⏮	FF Search
⏭	REW Search
BLANK	Blank Search
SEARCH	Index Search

U Digital EIS Indications
(See page 32)

m Zoom Magnification Level
(See page 33)

n Manual Focus Indication
(See page 39)

o White Balance Indication
(See page 35)








p PROGRAM-AE Indication
(See page 36)

q Backlight Indication
(See page 40)

r Shutter Mode indication
(See page 40)

Electronic Viewfinder/LCD Monitor Indications

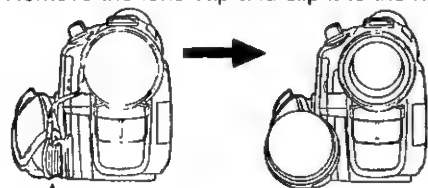
The following warning displays appear in the EVF and the LCD monitor.

Indications	Condition
 TAPE NOT INSERTED	If the Palmcorder is in CAMERA mode without a cassette inserted, "⏏" will flash and "TAPE NOT INSERTED" will appear for 5 seconds. Recording will not start.
 CHECK REC TAB	If the Palmcorder is in CAMERA mode with the cassette sliding record tab opened, "⏏" will flash and "CHECK REC TAB" will appear for 5 seconds. Recording will not start.
 CANNOT REC	When Audio dub is performed and the sliding record tab is open, or a blank portion of tape is detected, "⏏" will flash and "CANNOT REC" will appear for 5 seconds.
 TAPE END	When the tape is about to end in REC mode, "⏏ END" will flash and "TAPE END" will appear for 5 seconds.
INCOMPATIBLE TAPE	When an incompatible tape is detected, "INCOMPATIBLE TAPE" will appear for 5 seconds.
NEED HEAD CLEANING	If the video heads require cleaning, "NEED HEAD CLEANING" will appear for 5 seconds.
REMOTE	When the Palmcorder and remote are not set to the same mode (VCR1 or VCR2), "CHECK REMOTE MODE" appears for 5 seconds. Also appears when the Palmcorder is first turned on.
CANNOT REC LP-MODE	When an AUDIO DUB is attempted on a pre-recorded LP tape, "CANNOT REC LP-MODE" will appear for 5 seconds.
 DEW DETECTED	If excessive moisture condenses in the unit, "WARNING" will flash, "DEW DETECTED" will appear, and the Palmcorder will automatically turn OFF in 15 seconds. In this case, wait until the indicator no longer flashes when your Palmcorder is turned ON again.
  LOW BATTERY	When a battery recharge is necessary, "WARNING" will flash, "LOW BATTERY" will appear, and the Palmcorder will automatically turn OFF in 15 seconds. (See page 19.)
CLOCK BATTERY	When the built-in lithium clock battery is discharged, "CLOCK BATTERY" will appear. To re-charge the lithium clock battery, connect the AC Adaptor to the Palmcorder. Recharging takes approx. 4 hours. Reset the clock after charging.
INCOMPATIBLE DATA	If you play a tape recorded in a format other than NTSC or you try to copy a copy-protected data, "INCOMPATIBLE DATA" will appear.

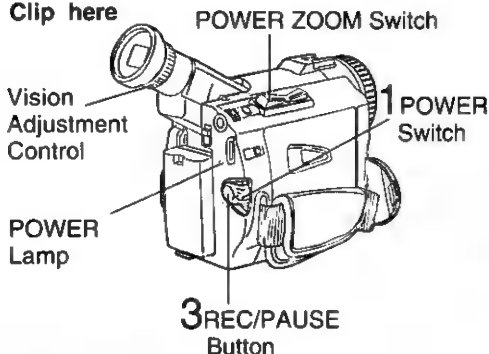
Camera Recording

Simple Recording

Remove the lens cap and clip it to the hook.

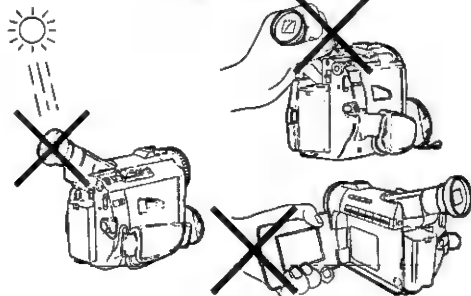


Clip here



WARNING:

- Do not leave the Palmcorder with the EVF aimed directly at the sun as this may cause damage to the internal parts of the EVF.
- Do not lift or carry the Palmcorder by the EVF or the LCD Monitor.



Zoom

You can gradually zoom in for close ups or zoom out for wide angle shots.

Zoom slowly : by lightly pressing the "T" (Telephoto) or the "W" (Wide Angle) side of the POWER ZOOM Switch.

Zoom quickly : by applying more pressure.

Note

- The zooming speed ranges from a slow 22 seconds to a fast 2 seconds according to the amount of pressure applied to the POWER ZOOM Switch.

Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Insert a cassette with record tab closed. (See page 6.)

1

Set POWER to CAMERA.

- The POWER Lamp lights red.
- Be sure POWER is fully turned to CAMERA position.

EVF



REC/PAUSE mode

2

With the Viewfinder Eye Cup up to your eye, adjust the Vision Adjustment Control to your eyesight. (See page 10.)

3

Press REC/PAUSE to start recording.

• "REC" is displayed on the screen.

Press REC/PAUSE again to pause recording.

- To reduce microphone wind noise, set the WIND-CUT to ON. (See WIND-CUT on page 15.)

- When the Palmcorder is aimed at excessively bright objects, or bright lights, a vertical bar may appear in the picture. This is a normal characteristic of the CCD pick-up device. Try to avoid this whenever possible.

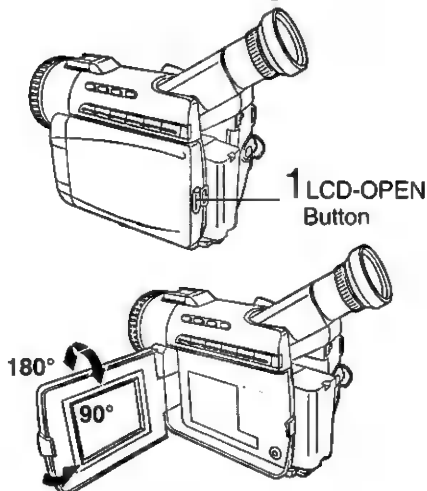
To conserve power

After 5 minutes, the Record/Pause mode will automatically change to Standby mode. To resume recording, set POWER to OFF and then ON again.

Camera Recording

Using the LCD Monitor

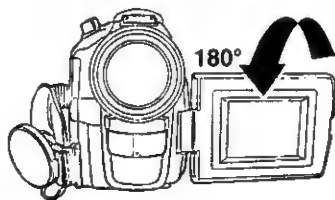
The LCD (Liquid Crystal Display) monitor can be used while recording.



To adjust the LCD BRIGHTNESS or LCD COLOR

- A** Press **MENU** to display the main menu screen.
- B** Rotate **JOG KEY** to select **LCD/EFV SETTING** from the main menu screen. (See pages 16, 18.)
- C** Press **JOG KEY** to display the LCD/EFV SETTING screen.
- D** Press **JOG KEY** to select LCD BRIGHTNESS or LCD COLOR, then rotate **JOG KEY** to adjust.
- E** Press **MENU** twice to exit this mode.

Self/Recording



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Insert a cassette with record tab closed. (See page 6.)

- 1** Press **LCD-OPEN** to unlock the LCD monitor.
- 2** Swing the LCD monitor fully open and adjust the viewing angle.
 - The LCD monitor will automatically turn on.
 - When the LCD monitor is completely closed, it will shut off automatically to save power.
 - Adjust LCD Brightness and/or color of the LCD monitor if necessary.
 - Please refer to "To adjust the LCD BRIGHTNESS or COLOR".

LCD/EVF SETTING

LCD BRIGHTNESS
LOW ||||| ----- HIGH

LCD COLOR
LOW ||||| ----- HIGH

EVF BRIGHTNESS
LOW ||||| ----- HIGH

• SELECT: PUSH JOG KEY
• SET : ROTATE JOG KEY
• EXIT : PUSH MENU KEY

- 3** Start recording. (See page 22.)

Note

- Using the LCD monitor will reduce battery operating time.
- Close the LCD monitor completely when not in use.

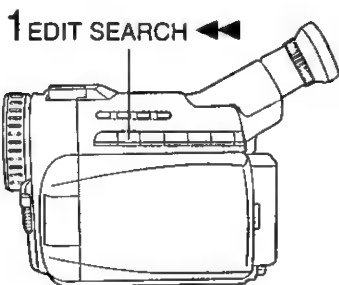
- Rotate the LCD monitor 180 degrees so it faces the same direction as the lens to record yourself (CAMERA mode). The picture in the LCD monitor will appear reversed.**

Set **SELF-REC** to MIRROR (see page 15) in the Camera mode menu screen to see the picture as it is actually being recorded.

Camera Recording

Recording Check

To playback the final few seconds of the last recorded scene in the REC/PAUSE mode.



- 1 Press **EDIT SEARCH** ◀ briefly in the REC/PAUSE mode.

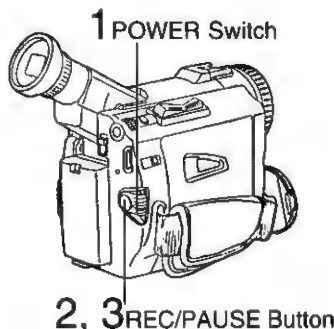
The [CHK] indication appears. After checking, the Palmcorder returns to the REC/PAUSE mode.

- For Recording Check, the Palmcorder must be in the same mode (SP or LP) as was used for recording, otherwise the playback picture is distorted.



Edit Search

You can visually search for scenes in CAMERA mode to maintain proper continuity when taping.



- 1 Set **POWER** to **CAMERA**.

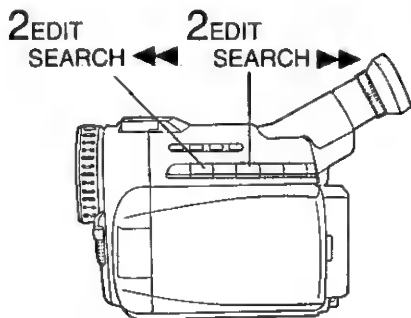
- The POWER Lamp lights red.
- Be sure POWER is fully turned to CAMERA position.

- 2 In REC/PAUSE mode, hold down **EDIT SEARCH** ▶▶ to perform a forward visual search or **EDIT SEARCH** ◀◀ to perform a reverse visual search. Releasing the button stops the search.

- 3 Press **REC/PAUSE** to continue recording.

Note

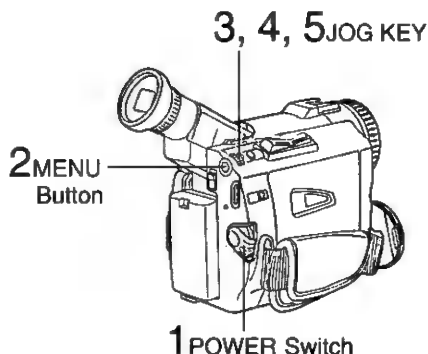
- During Edit Search, the picture will become mosaic in both ◀◀ and ▶▶ search, the sound will be muted in reverse visual search.
- Make sure the SP/LP tape speed setting is the same as the recording to eliminate distortion during edit search.



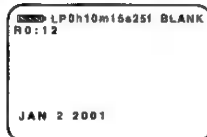
Camera Recording/Remote Control

Blank Search

You can go directly to a blank portion of tape and start recording exactly where you left off.



- 1** Set the **POWER** to **VCR**.
 - The **POWER** Lamp lights red.
 - Be sure **POWER** is fully turned to **VCR** position.
- 2** Press **MENU** to display the **VCR** mode menu screen.
- 3** Rotate **JOG KEY** to select **PLAY** **MODE**, then press **JOG KEY** to display the **VCR PLAY MODE** menu screen.
- 4** Rotate **JOG KEY** to select **BLANK SEARCH** in the **VCR PLAY MODE** menu. (See page 17.)
- 5** Press **JOG KEY** to select **ON**.
 - "BLANK" will appear on the screen.



Basic Operation

Remote Control (Optional, page 49)

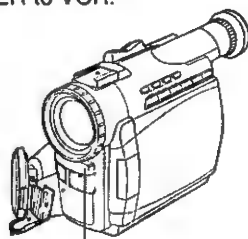
You can operate the major functions of your Palmcorder from up to approximately 16 feet (5 m) away (indoors). Aim the IR Remote Control toward the front of the Palmcorder and press the desired buttons (Remote Sensor is located under the lens).

To operate Camera functions:

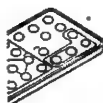
Set **POWER** to **CAMERA**.

To operate VCR functions:

Set **POWER** to **VCR**.



Remote Sensor



Controlled Functions

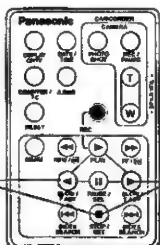
- Rec/Pause (See page 22.)
- Tele (Zoom) (See page 22.)
- Wide (Zoom) (See page 22.)
- Date/Time (See page 20.)
- Reset (See page 42.)
- PhotoShot (See page 34.)
- Display On TV (See page 31.)
- Counter/Time Code (See pages 19.)
- Audio Dubbing (See page 41.)
- Record (See page 44.)
- Menu (See page 14.)
- Play (See page 27.)
- FF/Search (See page 28.)
- REW/Search (See page 28.)
- Pause/Select (See pages 14, 28.)
- Stop/Set (See pages 14, 27.)
- Slow/Frame Advance (Forward) (See pages 28, 29.)
- Slow/Frame Advance (Backward) (See pages 28, 29.)
- Index Search (Forward) (See page 30.)
- Index Search (Backward) (See page 30.)
- Speaker Volume (See page 27.)

Remote Control (Optional)

Remote Controlling Two Palmcorders

You can control any two Panasonic Palmcorders with one Remote control (Optional, page 49). In order for the remote to distinguish between the two units, it is necessary to set one of the Palmcorders to VCR 2. On the remote, press VCR 1 or VCR 2 to control the desired Palmcorder.

Optional



For VCR 2:
Press these buttons at the same time.

For VCR 1:
Press these buttons at the same time.

Note

- When the Palmcorder and remote are not set to the same mode (VCR1 or VCR2), "CHECK REMOTE MODE (REMOTE)" will appear.

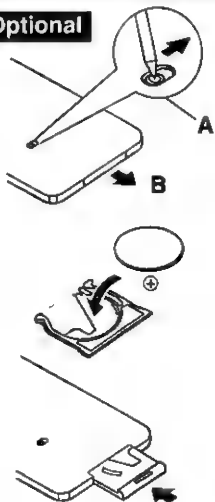
REMOTE

- 1 Set the POWER to VCR or CAMERA.**
 - The POWER Lamp lights red.
 - Be sure POWER is fully turned to VCR or CAMERA position.
- 2 Press MENU** to display the VCR or CAMERA mode menu screen.
- 3 Rotate JOG KEY** to select **CAMERA SET-UP** in the CAMERA mode menu screen or **VCR PLAY MODE** in the VCR mode menu screen, then press **JOG KEY** to display the CAMERA SET-UP or VCR PLAY MODE menu screen.
- 4 Rotate JOG KEY** to select **REMOTE**, and then press JOG KEY to select VCR 2. (See pages 16, 17.) Leave the other Palmcorder set to VCR1.
- 5 Set the Remote Control** (Optional, page 49) to **VCR 1 or VCR 2** to correspond with the Palmcorder you wish to control. (See above left.)

- After replacing the Remote Control Battery, the remote will default to VCR 1.

Replace the Battery

Optional



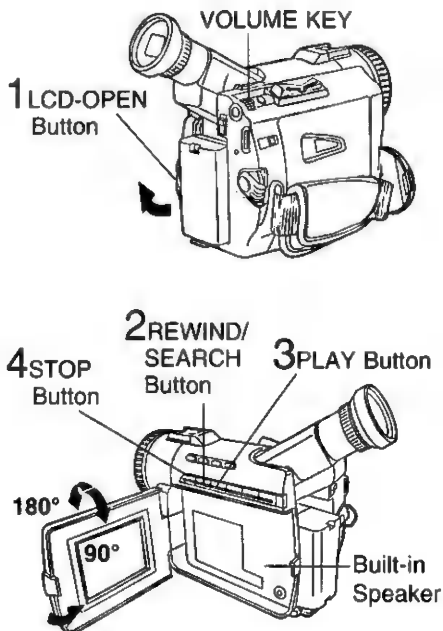
- 1** Insert a slender pointed object, such as the tip of a ball-point pen into the slot so that it fits into the hole (as shown A). Then, while sliding to the right, pull the Battery Tray out with your fingernail.
- 2** Insert the battery into the Battery Tray with the \oplus mark facing down.
Do not reverse the polarity.
- 3** Insert the Battery Tray.

Replace battery with Panasonic PART NO. VSBW0004 (CR2025) only. Use of another battery may present a risk of fire or explosion. Caution: battery may explode if mistreated. Dispose of used battery properly. Keep away from children. Do not recharge, disassemble or dispose of in fire.

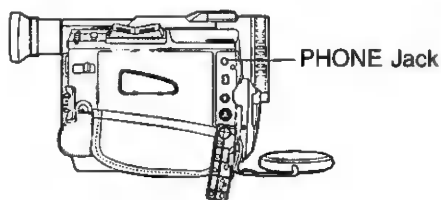
Playback Your Recordings

Playback using the LCD Monitor

You can also use the LCD monitor to playback your recording.



You can place the Palmcorder on a table, etc. for viewing. Rotate the LCD Monitor 180° and swing it up against the Palmcorder body as shown.



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Insert a recorded cassette.
- Set POWER to VCR.

1 Press **LCD-OPEN** to unlock the LCD monitor and swing open.

2 Press **REWIND/SEARCH** to rewind the tape.

3 Press **PLAY** to start playback.

To adjust the volume:

A Hold down **VOLUME KEY** until the volume setting screen appears. (See page 20).

B Rotate **VOLUME KEY** to adjust the volume of the built-in speaker. To remove the volume setting screen, hold down **VOLUME KEY** again.

- Adjust the picture on the LCD monitor if needed. (See page 23.)

4 Press **STOP** to stop playback.

- When the tape reaches its beginning during rewind or rewind search, it will stop automatically.
- If you press **PLAY** for more than 5 seconds, the Palmcorder will go into Repeat Playback mode when the tape reaches its end. The letter "R ▷" will appear in the EVF and LCD monitor. To exit the Repeat Playback mode, turn the Palmcorder OFF.

Note

- When a tape recorded in LP mode on another digital video camera is played back on this unit, the picture may appear mosaic.
- Using the LCD monitor reduces battery operating time.
- You can connect earphones (not supplied) to the PHONE Jack.



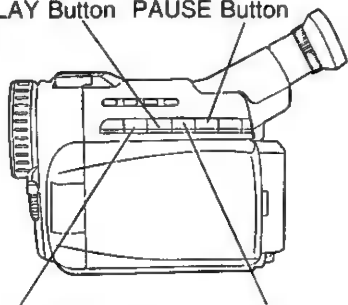
Playback Your Recordings

Special Effect Features During Playback

Note

- Sound is muted during all special effects.

PLAY Button PAUSE Button



A, B REWIND/
SEARCH Button

A, B FAST FORWARD/
SEARCH Button

Rapid Visual Search

A During playback, hold down **FAST FORWARD/SEARCH** or **REWIND/SEARCH**.

The search will continue for as long as the button is held down.

B OR
Press **FAST FORWARD/SEARCH** or **REWIND/SEARCH** once for a continuous rapid visual search. Press **PLAY** to release.

Note

- When executing a rapid visual search, the picture may become bluish for an instant or mosaic. This is normal during this mode.



STILL Picture

Press **PAUSE** during playback.
Press **PLAY** or **PAUSE** to release.

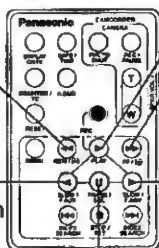
Note

- To protect the tape and video heads, your Palmcorder's operating modes will revert as follows:
STILL → **STOP** (after 3 minutes.)

Optional

REWIND/
SEARCH
Button

◀ SLOW/
F.ADV Button



PLAY Button

FAST
FORWARD/
SEARCH
Button

▶ SLOW/
F.ADV
Button

PAUSE Button

Fast Forward/Rewind Check

Monitor normal picture playback during fast forward or rewind.

- Hold down **FAST FORWARD/SEARCH** during fast forward.
- Hold down **REWIND/SEARCH** during rewind.
- The picture will appear for as long as the button is held down.

Slow Motion Playback

Optional Remote Control Only
(See page 49)

Forward Slow = Press ▶ **SLOW/F.ADV** during play.

Reverse Slow = Press ◀ **SLOW/F.ADV** during play.

Press **PLAY** to release. (During reverse slow motion playback, time code indication may not change regularly.)

Note

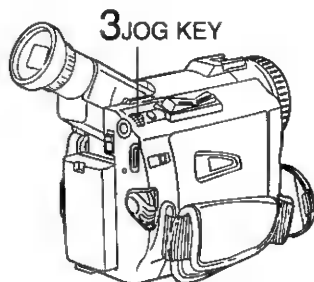
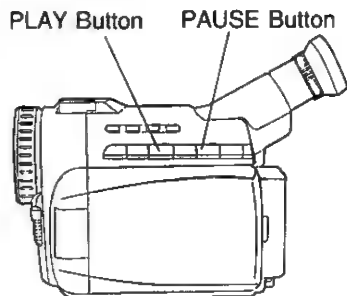
- Palmcorder will automatically **STOP** when in slow motion for more than 10 minutes.
- During slow motion playback, picture may move up and down. This is normal.
- When you start or stop slow motion playback, the picture may become bluish for an instant.

Playback Your Recordings

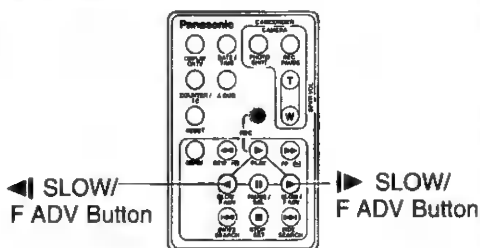
Special Effect Features During Playback (Continued)

Note

- Sound is muted during all special effects



Optional



Variable Speed Search

- 1 Press **PLAY** to start playback
- 2 Press **PLAY** again
- 3 Rotate **JOG KEY** to adjust the playback speed
 - Rotate **JOG KEY** downward for forward playback
 - Rotate **JOG KEY** upward for reverse playback

To return to normal playback

Press **PLAY**. Playback will continue at normal speed

Note

- The Variable Speed Search function offers a choice of six playback speeds (1/5X, 1X, 2X, 5X, 10X, 20X) both in forward and reverse directions
- The review playback at the 1X speed is playback in reverse direction
- During the Variable Speed Search (at a speed other than 1X), mosaic-like patterns will appear in the picture
- During the Variable Speed Search, sound is muted

Jog Frame by Frame Search

(Palmcorder only)

During Still mode, rotate **JOG KEY** to advance or reverse the picture one frame at a time

Frame by Frame Advance

Optional Remote Control Only
(See page 49)

Press **PAUSE** during playback

Press **▶ SLOW/F ADV** to do a frame by frame advance

Press **◀ SLOW/F ADV** to do a frame by frame reverse

Press **PLAY** to release

Note

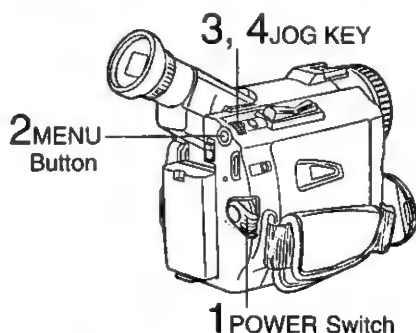
- If you hold down **SLOW/F ADV**, you can see a continuous series of still images at a slower speed than normal slow mode
- During frame by frame advance, a few frames may move automatically, and the picture may become bluish for an instant

Playback Your Recordings

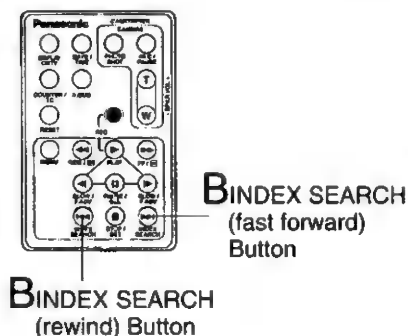
Special Effect Features During Playback (Continued)

Note

- Sound is muted during all special effects.



Optional



Top Scan

If you hold down INDEX SEARCH more than 2 seconds, the Palmcorder will scan for scenes (or PhotoShots) and playback the first few seconds of each.

To cancel this function, press PLAY or STOP.

Note

- Search will not work if there is a succession of PhotoShots.

Index Forward/Reverse Search

Optional Remote Control Only (See page 49)

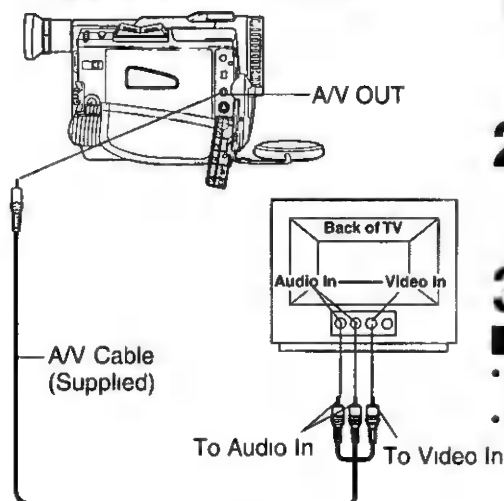
Search for a particular scene by using the electronic index marks placed at the beginning of each recording.

- 1 Set the POWER to VCR.**
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to VCR position.
 - 2 Press MENU** to display the VCR mode menu screen.
 - 3 Rotate JOG KEY** to select **PLAY MODE**, then **press JOG KEY** to display the VCR PLAY MODE menu screen.
 - 4 Rotate JOG KEY** to select **INDEX**, and then **press JOG KEY** to select PHOTO or SCENE. (See page 17.)
- A Place the Palmcorder in the VCR STOP mode.**
- B Press INDEX SEARCH fast forward or rewind** the number of recordings (indexes) forward or back you want to view. The Palmcorder will advance or rewind to the desired recording and automatically start playback.
- The number of times you pressed the button is displayed in the EVF and the LCD monitor if you set INDEX on the VCR menu to SCENE. (See page 17.) (Ex., if you press the button three times, "S3" will appear.)
 - If the interval between scenes is less than 1 minute, index search may not operate properly.
 - Response time from pressing the button and change in the scene number is quite slow. Do not press INDEX SEARCH rapidly and continuously.
 - During Reverse Index Search mode, playback will not begin when a tape rewinds all the way to the beginning.

Playback Your Recordings

View Recording/Playback on your TV

[TV with AUDIO/VIDEO IN Jacks]



1 Set **POWER** to **CAMERA** or **VCR**
To view what the Palmcorder is recording or to playback a tape on your TV

2 Turn your TV **ON** and set it to **LINE INPUT** or **S-VIDEO**
Check your TV operating instructions for further information

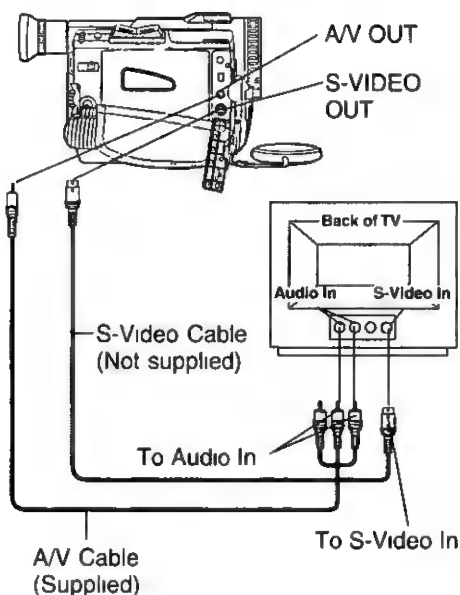
3 Start playback or begin a recording

Note

- Make sure the Palmcorder and TV are turned off while connecting
- Please connect the A/V cable securely

[TV with S-VIDEO IN Jacks]

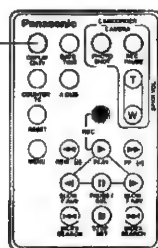
For best Chrominance and Luminance, use the S-Video connection if available on your TV



Optional Remote Control Only (See page 49)

You can display the various EVF and LCD indications on your TV by pressing **DISPLAY ON TV** on remote control. Press again to remove the indications

DISPLAY ON TV Button



Optional

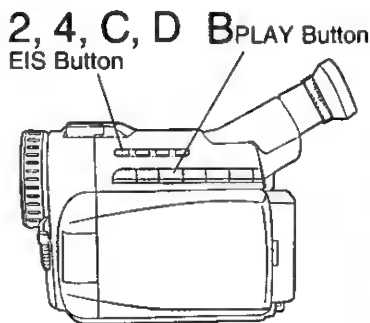
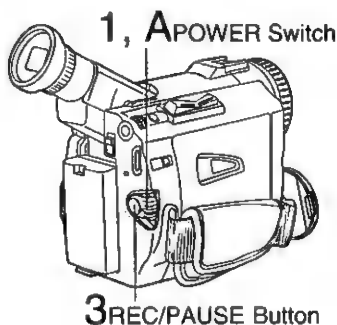
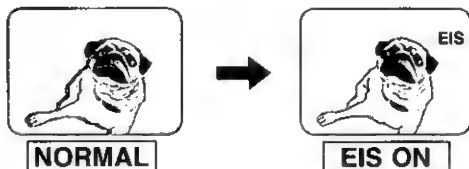
CATV System Installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical

Special Features

Dual Digital Electronic Image Stabilization System (D.E.I.S.)

This feature helps compensate for any unintentional hand or body movement. It can be used in both the Recording and Playback (VCR) modes.



Note

- Other Digital Functions are turned off automatically when the EIS and Digital Zoom are selected.

CAMERA mode

- 1 Set POWER to CAMERA.**
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to CAMERA position.
- 2 Press EIS to stabilize the picture.**
 - Picture flicker may be observed when taping under fluorescent lighting conditions.
 - The EIS indicator flashes when the light level is inadequate.
 - Turn D.E.I.S. OFF during recording when using a tripod.
- 3 Press REC/PAUSE to start recording.**
- 4 Press EIS again to cancel.**
 - Be sure that D.E.I.S. is turned off when not needed.

D.E.I.S. may not function when...

- Palmcorder movement is too extreme.
- Recording a subject with distinct horizontal or vertical stripes.
- Recording in low light situations.
- Recording a subject under a great amount of fluorescent light.
- Recording a scene with very fast motions.

VCR mode

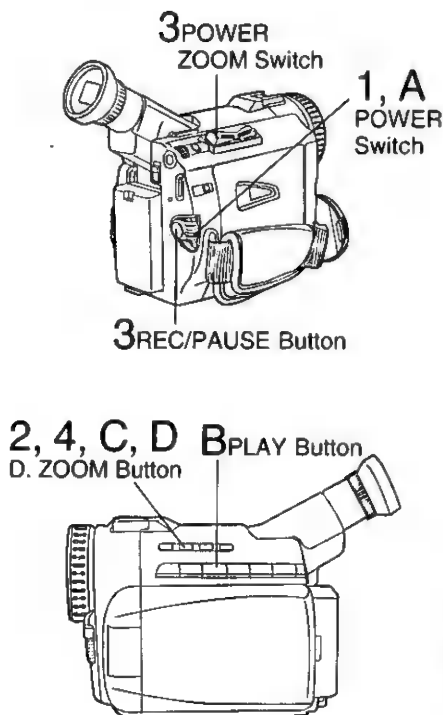
- A** Set POWER to VCR.
- The POWER lamp lights red.
 - Be sure POWER is fully turned to VCR position.
- B** Press PLAY to start playback.
- C** Press EIS to stabilize the picture.
- D** Press EIS again to cancel.
- Be sure that D.E.I.S. is turned off when not needed.

Note

- When using D.E.I.S. in VCR mode, the image size is slightly larger.

Special Features

Digital Zoom



Zoom In ("T")



Zoom Out ("W")

Note

- Other Digital Functions are turned off automatically when the EIS and Digital Zoom are selected.

CAMERA mode

- 1 Set POWER to CAMERA.**
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to CAMERA position.
- 2 Press D. ZOOM to select D.ZOOM1 or D.ZOOM2.**

once :

(PV-DV51) D.ZOOM1 (from 18X to 36X)
 (PV-DV101) D.ZOOM1 (from 20X to 40X)

twice :

(PV-DV51) D.ZOOM2 (from 18X to 300X)
 (PV-DV101) D.ZOOM2 (from 20X to 300X)

three times : Turn off D.ZOOM
- 3 Press REC/PAUSE to start recording and press POWER ZOOM to zoom in or zoom out.**
 - The magnification level is always displayed in the EVF or the LCD monitor when DISPLAY is set to ON. (See pages 16, 18.)
- 4 Press D.ZOOM to turn off Digital Zoom so that no indication appears.**

Note

- The normal optical zoom functions from 1X to 18X (PV-DV51)/20X (PV-DV101).
- Because the image is enlarged digitally, the picture may become distorted when higher magnification levels are used.
- When the level falls below 18X (PV-DV51)/20X (PV-DV101), the normal zooming function will resume.
- Focus distance becomes 4 feet (1.2 m) if the lens is in full telephoto.

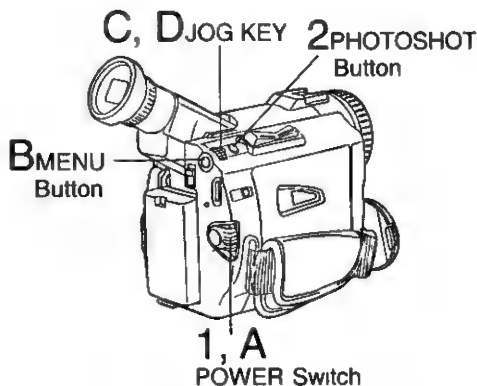
VCR mode

- A Set POWER to VCR.**
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to VCR position.
- B Press PLAY to start playback.**
- C Press D.ZOOM.**
 - The center portion of the image doubles in size.
- D Press D.ZOOM again for normal image size.**

Special Features

Digital PhotoShot

Use this feature to record a seven second (approx) still image from the current camera picture. Audio is also recorded for on-the-spot narration. Or, you can add narration later with the Audio Dubbing feature to make an interesting slide show, etc. (See page 41)



1

Set POWER to CAMERA

- The POWER lamp lights red
- Be sure POWER is fully turned to CAMERA position

2

Press **PHOTOSHOT** in Record/Pause mode "PHOTO" will appear in the EVF or the LCD monitor



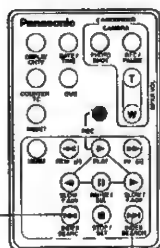
- If SHUTTER on the menu screen is set to ON, a sound effect similar to the shutter of a film camera will be heard when PHOTOSHOT is pressed
- When PHOTOSHOT is pressed, the playback image takes approx 7 seconds to process. After that, the Camera mode screen will be displayed

Index Search (Photo/Scene)

Optional Remote Control Only
(See page 49)

Optional

E INDEX SEARCH
(rewind Button)



E INDEX SEARCH
(fast forward Button)

A

Set POWER to VCR

- The POWER lamp lights red
- Be sure POWER is fully turned to VCR position

B

Press **MENU** to display the VCR mode menu screen

C

Rotate **JOG KEY** to select **PLAY MODE**, and press **JOG KEY** to display the VCR PLAY MODE menu screen

D

Rotate **JOG KEY** to select **INDEX**, and press **JOG KEY** to select PHOTO or SCENE

- Press MENU twice to exit

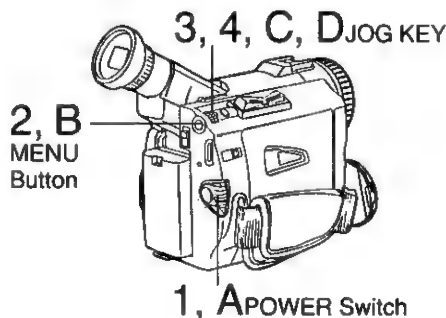
E

Press **INDEX SEARCH** fast forward or rewind on the remote control (Optional, see page 49) to advance or rewind the tape to playback a PhotoShot scene. To view the next PhotoShot, INDEX SEARCH must be pressed again

Special Features

White Balance

Auto White Balance automatically maintains optimum color balance in most lighting conditions. However, when using Digital Functions, etc., you may get better results using the manual adjustment.



- 1** Set **POWER** to **CAMERA**.
 - The **POWER** lamp lights red.
 - Be sure **POWER** is fully turned to **CAMERA** position.
- 2** Press **MENU** to display the menu screen.
- 3** Rotate **JOG KEY** to select **ADJUST**, and then press **JOG KEY** to display the **CAMERA ADJUST** menu screen.
- 4** Rotate **JOG KEY** to select **W/BALANCE**, and then press **JOG KEY** repeatedly to select **AUTO**, Indoor halogen lamp "A", or Outdoors "S".

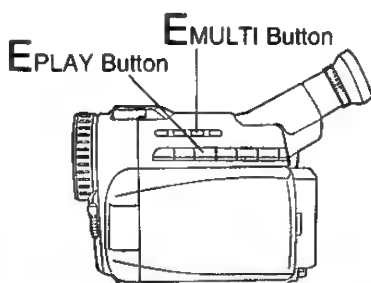
A : When the source illumination is a halogen lamp.

S : When shooting outdoors on a sunny day.

AUTO : Automatically maintains optimum color balance in most lighting conditions.

Strobe Multi Mode

In Strobe Multi Mode, you can select the rate at which a succession of still screens are captured from the playback picture.



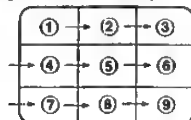
Strobe Speeds

Strobe Speeds	9 screen capture time
FAST	Every 0.3 seconds
NORM	Every 0.6 seconds
SLOW	Every 1.0 seconds

Note

- A Multi Image Playback screen cannot be output from the DV terminal or Digital Still Image terminal.
- A Multi screen will have slightly lower image quality.

- A** Set **POWER** to **VCR**.
 - The **POWER** lamp lights red.
 - Be sure **POWER** is fully turned to **VCR** position.
- B** Press **MENU** to display the menu screen.
- C** Rotate and press **JOG KEY** to select and set **MULTISETTING**.
- D** Press **JOG KEY** to select **SPEED**, then press repeatedly to set desired speed.
- E** Press **MENU** twice to exit.
- F** Press **PLAY** to start playback. Press **MULTI** at the point you want to start capturing.
 - A succession of 9 screens will be captured, and playback will stop.

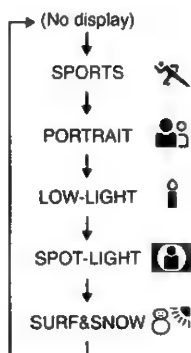
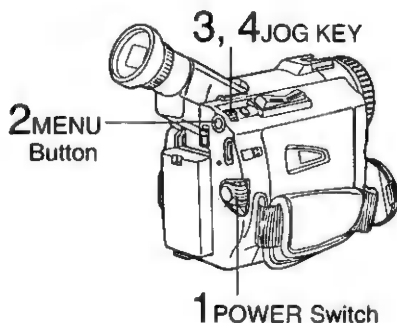


- Press **MULTI** to return to the normal **STILL** screen.
- Press **PLAY** to start playback.
- Press **STOP** to stop playback.

Special Features

Program AE

The Auto Exposure feature can be used to make quality recordings in a variety of scene situations.



Note

SPORTS mode

- The recorded images will not be so blurred when they are viewed later using slow or still picture playback.
- When playing back a sports mode recording, the movement may appear slightly jerky.
- Do not use this mode when recording under fluorescent, mercury, or sodium lighting. These types of lights will affect the color and brightness of the images.
- A vertical band of light might appear when recording objects that are brightly illuminated or which are highly reflective.
- If the amount of light is insufficient, the SPORTS "X" indicator will flash in the EVF or the LCD monitor.
- The image may flicker if this mode is used indoors.

1 Set POWER to CAMERA.

- The POWER lamp lights red.
- Be sure POWER is fully turned to CAMERA position.

2 Press MENU to display the menu screen.

3 Rotate JOG KEY to select **ADJUST**, and then press JOG KEY to display the CAMERA ADJUST menu screen.

4 Rotate JOG KEY to select **PROG.AE**, then press JOG KEY repeatedly to select one of the five modes shown below.

5 Repeat steps 2-4 to select OFF to cancel this feature.

Mode	Indication
	For recording fast action scenes.
	For recording only subjects in the foreground, while ignoring subjects in the background.
	For recording in extreme low light conditions.
	Recording in situations where subjects are under a spotlight(s).
	For recording in locations with a high degree of "Dazzle," such as snow slopes and the seashore.

PORTRAIT mode

- The image may flicker if this mode is used indoors.

LOW-LIGHT mode

- Scenes recorded in extremely low light levels may not come out properly.

SPOT-LIGHT mode

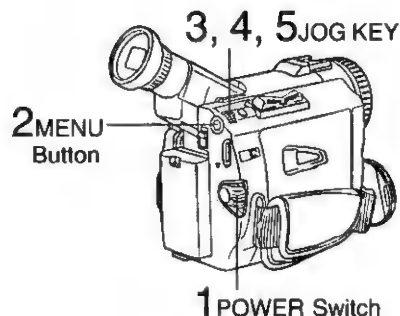
- If the recorded subject is extremely bright, the picture may appear whitish.

SURF&SNOW mode

- If the recorded subject is extremely bright, the picture may appear whitish.
- It is not possible to select the SPORTS mode or PORTRAIT mode together with the GAIN UP in the Digital function camera menu.

Other Digital Functions

Use the following features to add interest and professionalism to your recordings or playback. Select from twelve special effects.



Types of Digital Functions

- **MIRROR**
Symmetrical image from the current camera picture.
- **STROBE**
The recording appears as a sequence of still frames.
- **MOSAIC**
The picture appears in a mosaic pattern.
- **SLIM**
The picture is expanded vertically.
- **TRAIL**
The subject being recorded creates a trail when in motion.
- **STRETCH**
The picture is expanded horizontally.
- **GAIN UP** (Not available during playback)
Picture sensitivity is increased.
• Only Manual Focus is available.
- **WIPE**
Successive scenes are separated in a way which simulates the drawing of a curtain.
- **MIX**
The current scene is mixed in with the following scene during scene changes.
- **PinP**
PinP (Still image) is displayed on the Main Picture.
- **SEPIA** (Only available during playback)
The picture is played back in sepia, a brownish color, giving it an antique look.
- **MONO (Monotone)** (Only available during playback)
The picture is played back in black-and-white.

- 1** Set **POWER** to **CAMERA** or **VCR**.
 - The **POWER** lamp lights red.
 - Be sure **POWER** is fully turned to **CAMERA** or **VCR** position.
- 2** Press **MENU** to display the menu screen.
- 3** Rotate **JOG KEY** to select **D.FUNCTION** in the **CAMERA** mode menu screen or **PLAY FUNCTION** in the **VCR** mode menu screen, then press **JOG KEY** to display the **CAMERA FUNCTION** or **VCR PLAY FUNCTION** menu screen.
- 4** Rotate **JOG KEY** to select **D.FUNCTION**, and then press **JOG KEY** repeatedly to select one of the Digital Functions listed on the left.
- 5** To cancel the Digital Function, press **JOG KEY** repeatedly to select **OFF**.

Note

- The **EIS** and **Digital Zoom** features are turned off automatically when one of the Digital Functions listed at left is selected.

To use the WIPE function

- a. In Camera mode, set the "D.FUNCTION" item in the main menu screen to "WIPE". (See page 15.)
- b. Press **REC/PAUSE** to start recording.
- c. Press **REC/PAUSE** to pause recording. The last scene will be memorized.
- d. Press **REC/PAUSE** to start recording again. The new scene will take the place of the memorized scene.

To use the MIX function

- a. In Camera mode, set the "D.FUNCTION" item in the main menu screen to "MIX". (See page 15.) Then, perform steps b-d above.

The memorized scene and the new scene will appear mixed as the scene changes from one to the other.

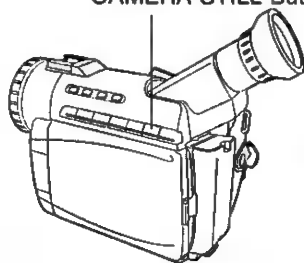
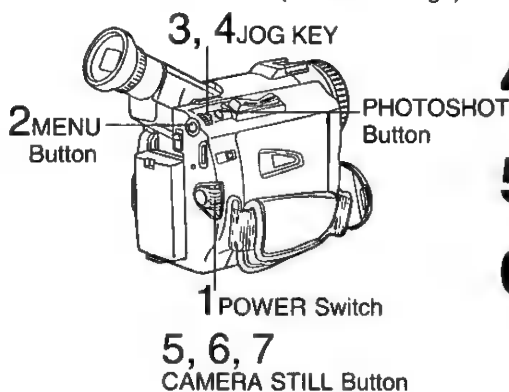
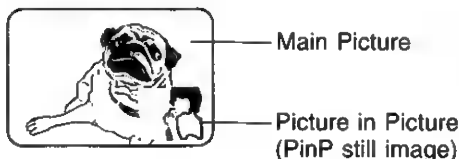
Special Features

Picture in Picture (PinP)

You can display a PinP (still image) screen on the Main Picture.

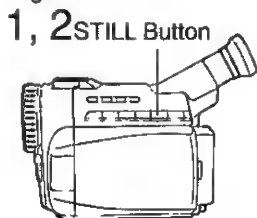
Note

- PinP position is fixed at the bottom right of the screen.



Recording Still Pictures

You can record still pictures of any desired duration together with sound.



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)

- 1 Set POWER to CAMERA.**
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to CAMERA position.
- 2 Press MENU** to display the menu screen.
- 3 Rotate JOG KEY** to select **FUNCTION**, then **press JOG KEY** to display the CAMERA FUNCTION menu screen.
- 4 Press JOG KEY repeatedly** to select **PInP**.
 - Press MENU twice to exit this menu.
- 5 Aim** at the scene you wish to place as PinP, then **press CAMERA STILL** to freeze the image.
- 6 Press CAMERA STILL again** to place the frozen image as PinP.



- 7 Press REC/PAUSE** to record a scene with PinP image.
 - Press PHOTOSHOT to record a scene with PinP image in PhotoShot mode.
 - Press CAMERA STILL again to remove PinP image.

- 1 While in RECORD mode, press STILL and hold for 2 seconds** to capture a still picture. The captured still picture will be recorded together with sound.
- 2 Press STILL once again** to release the still picture. The camera will resume recording real-time pictures.

Auto Focus

The Palmcorder automatically adjusts the focus over the entire zoom range.

Manual Focus

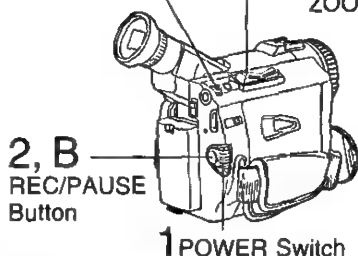
Use Manual Focus (MF) when recording ...

- a subject through glass.
- a scene where the subject is far from the Palmcorder and there are objects in the foreground.
- a subject with distinct horizontal stripes.
- a subject not centered in the Viewfinder.
- subjects with shiny surfaces.
- an obliquely angled subject.
- a bright, flat subject such as a white wall.
- in low light situations.
- a scene with fast motions, like a golf swing.

Re-focusing may be required

- when your Palmcorder is aimed at a new scene.

2, 4M.FOCUS DIAL 3, 5POWER ZOOM Switch



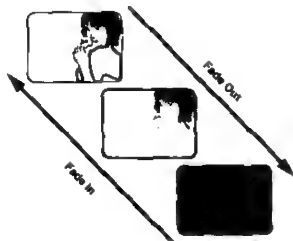
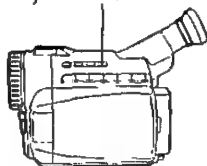
Macro Focus (for close-ups)

Press the "W" side of POWER ZOOM to the maximum wide angle position. Auto Focus will function with the subject as close as 1 inch (25 mm) in front of the lens.

Audio/Video Fade In/Out

You can make smoother scene transitions for a more professional look.

1, AFADE Button



1

Set POWER to CAMERA.

- The POWER lamp lights red.
- Be sure POWER is fully turned to CAMERA position.

2

Press M.FOCUS DIAL so that "MF" (Manual Focus) appears in the EVF or the LCD monitor.

3

Press and hold POWER ZOOM "T" side (Telephoto) until the lens is at maximum zoom in.

4

Turn M.FOCUS DIAL until the picture is in focus.

- It may be necessary to back away from the subject to focus the image properly.

5

Press POWER ZOOM to "W" or "T" as desired.

- The subject will remain in focus over the entire zooming range.
- It may be necessary to back away from the subject to focus the image properly.

Note

- DISPLAY must be set to ON for MF, AE, W.BALANCE, or BACK LIGHT to be displayed on the LCD or EVF.

Fade In

Starting the first scene with "fade in" is very effective.

1

In REC/PAUSE mode, hold down FADE until the picture fades out.

2

Press REC/PAUSE to start recording.

3

Release FADE and the picture will gradually fade in.

Fade Out

Use to create a soft ending or (together with fade in) for a soft transition from one scene to the next.

A

During recording, hold down FADE until the picture fades out.

B

Press REC/PAUSE to pause the recording.

Special Features

High Speed Shutter

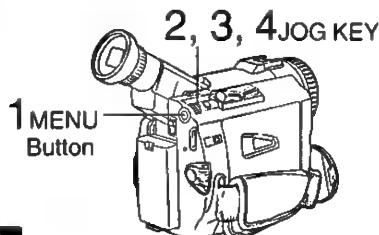
To record high speed motion (e.g. tennis stroke) for improved STILL or SLOW MOTION playback when watching the tape on this Camcorder.

Auto Shutter

In the AUTO mode (no indication in the EVF and LCD monitor), the Palmcorder will automatically adjust the shutter speed (up to 1/350).

- AUTO mode is automatically selected whenever the POWER Switch is set to CAMERA.

Manual Selection



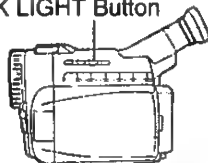
Note

- For proper color reproduction, it is recommended that you use this feature outdoors. For indoor High Speed Shutter recording, additional halogen or tungsten light should be provided. Fluorescent light will degrade the picture quality.
- This feature requires ample light. More light is required for the fastest shutter speeds.
- The Auto Focus system may not operate properly in insufficient light when using the High Speed Shutter.
- When PROG.AE is ON, you cannot manually select the shutter speed.

Backlight

Use when recording a subject that is darker than the surrounding scene, in a shadowed area, or when the light source is in back of your subject.

BACK LIGHT Button

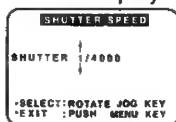


EVF or LCD monitor indication

Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER Switch to CAMERA.
- Insert a cassette with record tab. (See page 6.)

- 1 Press **MENU** to display the Camera mode menu in the EVF or the LCD monitor.
- 2 Rotate and press **JOG KEY** to select **ADJUST**, then rotate and press **JOG KEY** to select **SHISS**.
- 3 Press **JOG KEY** to select **SET**.
 - SHUTTER SPEED menu is displayed.



- 4 Rotate **JOG KEY** to choose one of the following shutter speeds.

1/100 ↔ 1/60 ↔ AUTO ↔ 1/8000 ↔ 1/4000
↑
1/250 ↔ 1/500 ↔ 1/1000 ↔ 1/2000

- Press **MENU** three times to exit.

Press **BACK LIGHT** in Record mode to activate the Backlight feature. The Indicator "●" will appear in the EVF or LCD monitor.

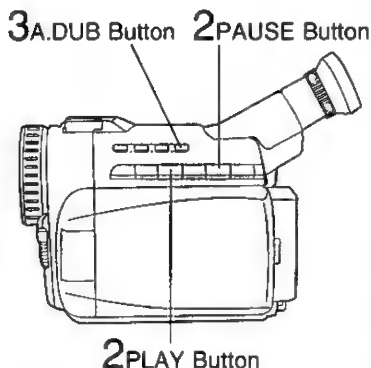
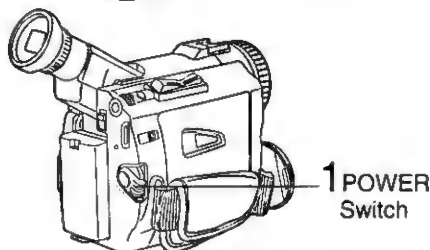
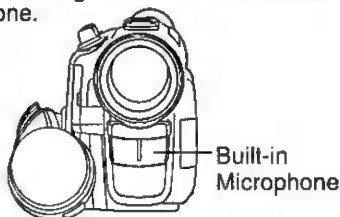
Press **BACK LIGHT** again to cancel the Backlight feature.

Note

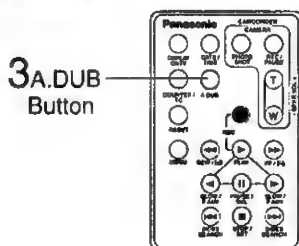
- The Indicator "●" will not appear in the EVF or LCD monitor when OFF is selected in the DISPLAY menu.

Audio Dubbing using the Built-in Microphone

The original sound can be replaced with new sound using the built-in Palmcorder microphone.



Optional



Before you begin

- Turn on the Palmcorder.
- Insert a pre-recorded tape to be dubbed.

The AUDIO-REC setting in CAMERA MENU mode should be as follows:

12 bit	The original sound is recorded on ST (Stereo) 1, and the new sound will be recorded on ST (Stereo) 2.
16 bit	The original sound is replaced with the new sound.

- Select 12 bit if you do not want the original sound to be completely replaced during an audio dub.
- If you dub over a tape which has both 12 bit and 16 bit audio recordings on it, keep in mind that the original 16 bit audio portion will be completely replaced.

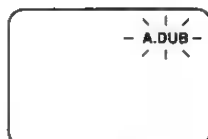
1 Set POWER to VCR.

- The POWER lamp lights red.
- Be sure POWER is fully turned to VCR position.
- If you have the Optional Remote Control, you can set the Palmcorder to stop automatically at a specified point on the tape. See "Memory-Stop Editing" on page 42.

2 Press PLAY. Then press PAUSE where you want dubbing to begin.

3 Press A.DUB on this unit (for three seconds) or on the remote control (optional, see page 49) to put the Palmcorder in the Audio Dub mode.

- "A.DUB" flashes in the EVF or the LCD monitor.



EVF/LCD Indication

Special Features

4, 5 PAUSE Button



To listen to the desired audio sound, set the AUDIO setting of the VCR mode MENU (see page 17) as follows:

AUDIO: The following selections are available for 12 bit AUDIO dubbed recordings only (sound recorded in SP mode only).

ST 1	Set this position to listen to the original sound.
ST 2	Set this position to listen to the audio dubbed sound.
MIX	Set this position to listen to both the original sound and the audio dubbed sound.

Note

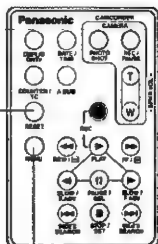
- 16 bit dubbed sound completely erases the original 16 bit recorded sound.
- If you dubbed using 12 bit AUDIO recording and then selected AUDIO-MIX in the menu for playback, the sound will be stereo regardless of the AUDIO-OUT setting.
- If you recorded in LP mode, you cannot use the A.DUB feature.

Memory-Stop Editing (Optional Remote Control Only, see page 49)

You can set an automatic Dubbing stop point.

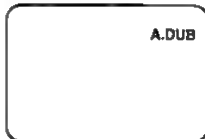
Optional

D RESET
Button



A MENU Button

- 4** Press **PAUSE** to start Audio Dubbing.
- Connect the Palmcorder to the TV in order to monitor the sound.
(See page 31.)



Only NTSC (National Television Standards Committee) recorded tapes can be audio dubbed. The following screen appears if the tape was not recorded in NTSC format.



- 5** Press **PAUSE** to stop Audio Dubbing.

- If the microphone used for dubbing gets too near the speaker of your TV, a howling noise (feedback) may occur.
- If the tape position is in or was started in a blank section, you cannot use the A.DUB feature.

- A** Press **MENU** to display the VCR menu screen.

- B** Rotate **JOG KEY** to select **DISPLAY SETTING**, and then press **JOG KEY** to display the DISPLAY SETTING menu.

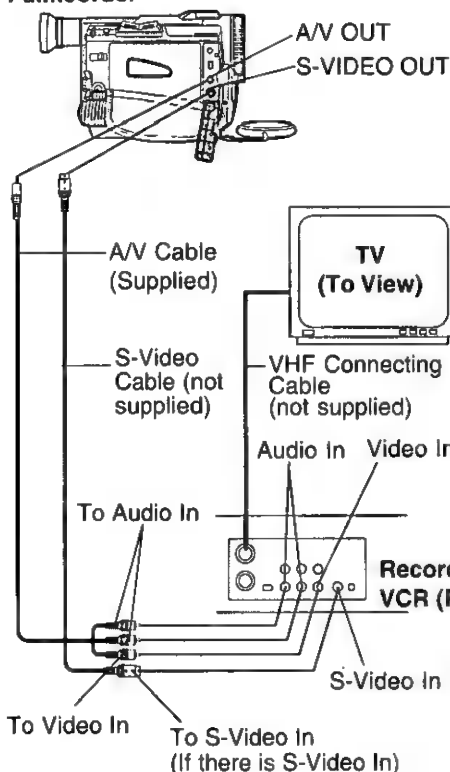
- C** Rotate **JOG KEY** to select **DISPLAY**, and then press **JOG KEY** to set to **MEMORY**.

- D** Press **MENU** two times to exit MENU mode. Then, press **RESET** on the remote control to reset the Counter Memory to M 0:00:00.

Now, rewind to the editing start point, and continue with steps 2-5. The tape will now stop automatically at "M 0:00:00".

Copying your Tapes to S-VHS or VHS Cassette

Source (Playing)
Palmcorder



Monitor with your TV

- Turn the TV ON and select its VCR channel (either CH3 or CH4).
- Set the VCR/TV Selector on the recording VCR to VCR.

Before you begin

- Connect both Palmcorder and VCR to their power sources.
- Connect the Palmcorder to a VCR as illustrated left.
- Turn ON both units.
- **Set the recording VCR's Input Signal Selector to LINE.**
- Set the Palmcorder POWER Switch to VCR.

- 1** Insert a pre-recorded tape into the source (playing) Palmcorder and a blank tape, with record tab in place, into the target VCR (Recorder).
- 2** Press **PLAY** on the Palmcorder. When the tape reaches the point you want to start dubbing, press **PAUSE**.
- 3** Place the VCR into **REC/PAUSE** mode. (See VCR manual.)
- 4** Simultaneously, press **PAUSE** on both units to begin copying.
- 5** Press **STOP** on both units when copying is completed.

Note

- For technical reasons, dubbing a tape may reduce its quality.
- Press **DISPLAY ON TV** on the Palmcorder remote control (optional, page 49) to eliminate EVF/LCD Monitor indications.
- If the Time Code is displayed in the EVF or LCD monitor, it cannot be reset.
- Only the DATE/TIME, when displayed, will be recorded on the tape.

CAUTION:

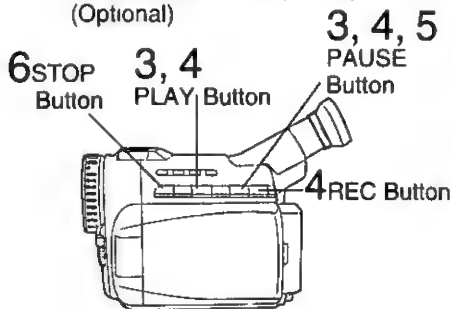
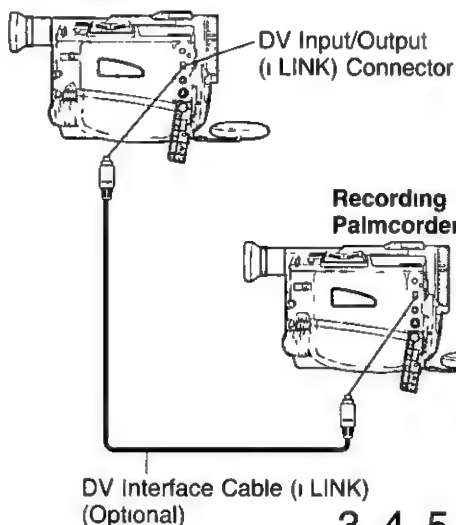
Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

Special Features

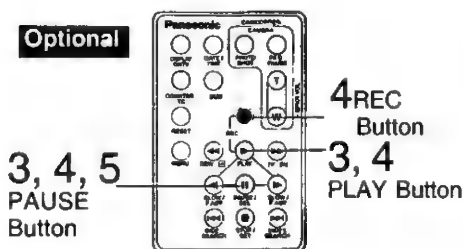
Copying from Digital Equipment (dubbing)

High quality digital-to-digital copying can be accomplished if both Palmcorders incorporate the DV Input/Output (i LINK) Connector (DV interface cable (i LINK) is not supplied)

Source (Playing) Palmcorder



Optional



Before you begin

- Connect both Palmcorders to their power sources
- Connect the two Palmcorders using the DV interface cable (i LINK) (4-pin to 4-pin)
- Turn both Palmcorders ON

- 1** Insert a pre-recorded tape into the source (playing) Palmcorder, and set **POWER** to **VCR**
- 2** Insert a blank tape with the record tab closed into the target (recording) Palmcorder and set **POWER** to **VCR**
- 3** Press **PLAY** on the source Palmcorder. When the tape reaches the point you want to start dubbing, press **PAUSE**
- 4** Hold down **REC** and press **PLAY** on the target (recording) Palmcorder or on the remote control (optional, see page 49). Press **PAUSE** to pause the tape at the starting point of the dub
- 5** Simultaneously, press **PAUSE** on both units to begin dubbing
- 6** Press **STOP** on the recording unit, and then press **STOP** on the playing unit to end dubbing

Note

- When two Palmcorders are used for dubbing, it is recommended that the remote control VCR1 or VCR2 setting be used to avoid improper operation
- When two Palmcorders are connected using the DV interface cable (i LINK) (not supplied), a Video Editing Controller cannot be used
- Do not connect both an S-Video Cable or A/V Cable and a DV Interface Cable (i LINK)

CAUTION:

Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement

PC Connection with DV Interface Cable (i.LINK)

A live image can be transferred directly to your PC (Personal Computer) via a DV Interface Cable (i.LINK) (not supplied) using products and software from a number of editing software companies including Digital Origin, Canopus, and Pinnacle.

Using Products from these companies allows you to capture and edit live images onto your PC using the DV interface (i.LINK).

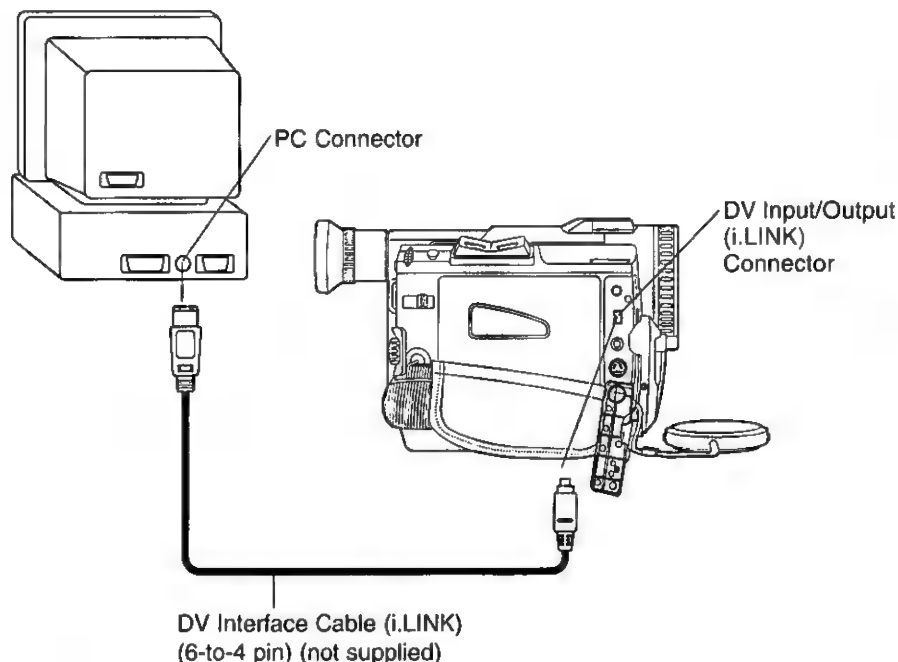
Note:

For more detailed information regarding editing software products from these companies, please visit their websites at:

www.digitalorigin.com

www.justedit.com

www.pinnaclesys.com



Note

- During Palmcorder playback, do not disconnect the DV Interface Cable (i.LINK) or turn the Palmcorder off as this may cause PC hang-up error to occur.

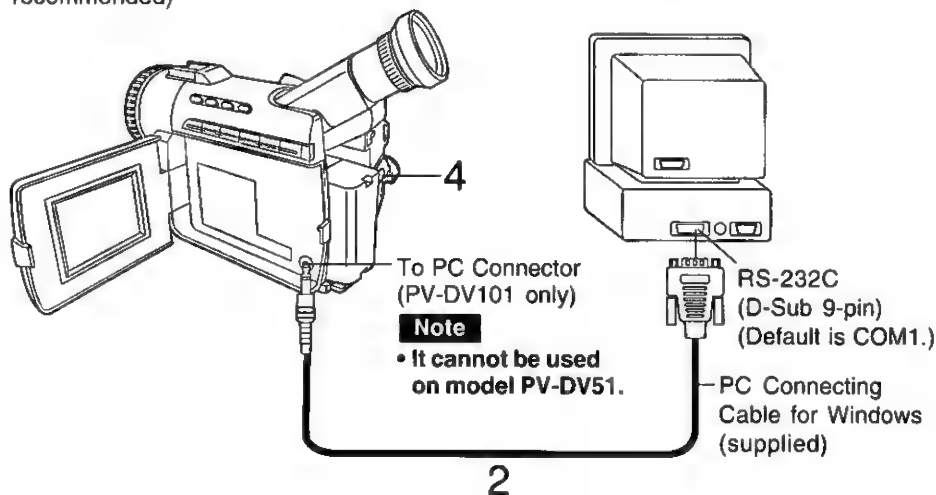
PC Connection (PV-DV101 only)

PHOTOVU Link Driver

An image recorded on the DV Tape can be transferred to your PC (Personal Computer).

System Requirements for PHOTOVU LINK Driver

- IBM PC/AT or compatible
- Intel® Pentium® Processor
- Microsoft Windows® 95/98/Me/2000
- RAM: 16 MB or more
- 2 MB minimum available hard disk space
- 256 color monitor (full color recommended)
- 3.5 inch 1.44 MB floppy disk drive (for installation)
- RS-232C serial port (D-Sub 9-pin)
An adaptor (D-Sub 9-pin male to a D-Sub female) is required for a D-Sub 25-pin
- Mouse or other pointing device



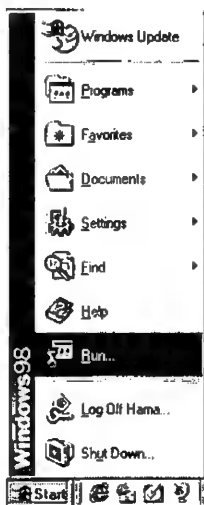
Connection

- 1 Turn off your PC.
- 2 Connect the Palmcorder to your PC (Windows) using the RS-232C PC connecting cable (supplied).
 - Before connecting the Palmcorder to the PC, make sure the PC power is off to insure that images are transferred properly.
- 3 Turn on your PC.
- 4 Set the Palmcorder POWER to VCR.

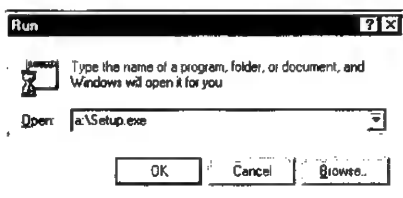
Note

- For extended periods of use, it is recommended to use the AC Adaptor as a power source.
- Refer to PC or Windows manual to identify which COM port is to be used for connection.

PHOTOVU LINK (PV-DV101 only)



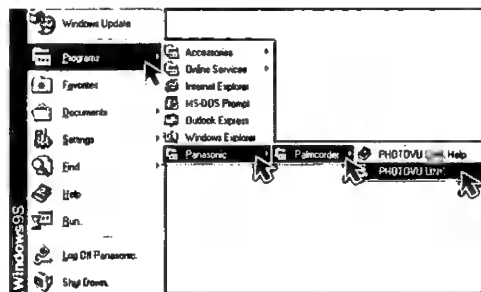
- 1 Turn your PC (Personal Computer) on and start up Windows.
- 2 Insert **PHOTOVU LINK DRIVER** Disk into a floppy disk drive.
- 3 Click on Start, then "Run..."
- 4 Type in "a:\setup.exe" and click OK.
 - If your 3.5 inch floppy disk drive is not "A", use the appropriate letter.
- 5 Follow the instructions as they appear on the PC screen until the installation is complete.
 - Setup window will disappear when the installation is complete.



Running the Software

PHOTOVU LINK:

You can transfer images from your Palmcorder tape to your PC.



Before you begin

- Insert the Tape. (See page 9.)
- Make Palmcorder-PC connections. (See page 46.)
- Turn your PC on.
- Set Palmcorder POWER to VCR.

- 1 Click on Start, "Programs," "Panasonic," "Palmcorder," then "PHOTOVU LINK."
- 2 "PHOTOVU LINK" is opened.

Note

- COM Port and Baudrate are automatically selected.

Refer to Help for information about application operations and other Error messages.

PHOTOVU LINK (PV-DV101 only)

Using Tape Image Data

Pictures captured with the Palmcorder can be transferred to your PC.

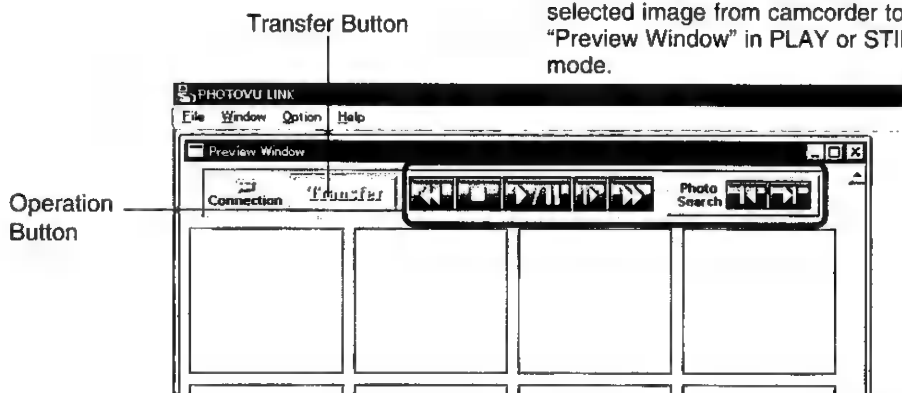
Before you begin

- Insert a recorded tape. (See page 9.)
- Make Palmcorder-PC connections. (See page 46.)
- Turn your PC on.
- Set Palmcorder POWER to VCR.

1 Repeat steps 1 and 2 on page 47 to run the Software.

2 "Preview Window" screen appears.

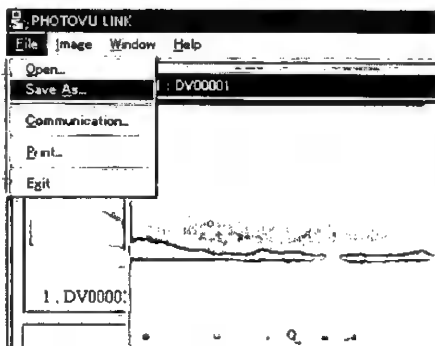
3 Search and Select video footage or a Still scene you want to transfer to your PC using VCR Operation Buttons on the "Preview window" screen. Then click on "Transfer" to transfer selected image from camcorder to "Preview Window" in PLAY or STILL mode.



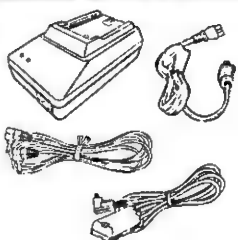
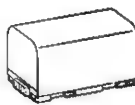

4 Click on "File" then "Save As". Save transferred image to PC.

Note

- If, while transferring the image to your PC, the displayed picture appears abnormal, close PHOTOVU LINK and turn Camcorder POWER off. Run PHOTOVU LINK again and turn Palmcorder Power back on. Now transfer again.
- Photo Search may fail to detect a recorded PhotoShot image if the image is 3 seconds or less.



Palmcorder Accessory System

Accessory #	Figure	Description	Price
PV-DAC11A		AC Adaptor with AC Cable and DC Cable	\$120.00
CGR-D08A/1B (Replaces CGR-D120A/1B)		800mAh / 1 h 30 min, Battery Pack	\$69.95
CGR-D16A/1B (Replaces CGR-D220A/1B)		1600mAh / 3 h Battery Pack	\$99.95
CGP-D28A/1B		2800mAh / 5h Battery Pack	\$129.95
CGR-D53A/1K (Replaces CGR-D815A/1B)		5300mAh / 9 h Battery Pack	\$229.95
PV-DDC9		DV Interface Cable (i.LINK) (4-pin to 4-pin)	\$55.00
PV-DLT9		Color Enhancement Light	\$39.95
PV-DRC9		IR Remote Control	\$29.95

Palmcorder Accessory Order Form

Please photocopy this form when placing an order

1 Palmcorder Model # _____

2 Items Ordered

Accessory #	Description	Price Each	Quantity	Total Price

Subtotal

Your State & Local Sales Tax

Shipping & Handling

Total Enclosed

6 95

3 Method of payment (check one)

☐ Check of Money Order enclosed (NO C O D SHIPMENTS)

☐ VISA Credit Card # _____

☐ MasterCard Expiration Date _____

☐ Discover Customer Signature _____

Make Check or Money Order to PANASONIC ACCESSORIES

(Please do not send cash)

4 Shipping information (UPS delivery requires complete street address)

Ship To

Mr

Mrs

Ms

First

Last

Phone #

Day ()

Street Address

Night ()

City

State

Zip

TO OBTAIN ANY OF OUR PALMCORDER ACCESSORIES YOU CAN DO ANY OF THE FOLLOWING

VISIT YOUR LOCAL PANASONIC DEALER

OR

CALL PANASONIC'S ACCESSORY ORDER LINE AT 1-800-332-5368

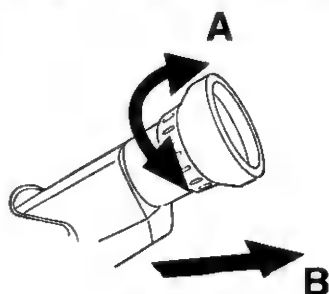
[6 AM-5 PM M-F, 8 AM-10 30 AM SAT, PACIFIC TIME]

OR

MAIL THIS ORDER TO PANASONIC SERVICES COMPANY ACCESSORY ORDER OFFICE
20421 84th Avenue South Kent, WA 98032

Notes On Operations

Cleaning EVF (Electronic Viewfinder)



- 1 Turn the Eyepiece counterclockwise 1/8 of a turn
- 2 Pull the Eyepiece free
Remove any lint or dust particles with a soft, clean cloth being careful not to scratch the glass surfaces
- 3 To re-install the Eyepiece
Line up the marks on the Eyepiece with the grooves inside the EVF shaft and attach. Turn it clockwise 1/8 of a turn to lock in place

Rough Values of Brightness

Your Palmcorder has been designed for normal scene illumination of 150 footcandles (1500 lx). However, the Palmcorder may be used at F1 16, if illumination is more than 0.5 footcandles (5 lx).

The table below shows the color temperature for reference.

PALMCORDER SETTINGS	NATURAL LIGHT CONDITIONS	KELVIN COLOR TEMPERATURE	ARTIFICIAL LIGHT SOURCE	COLOR TINT MIXTURE
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">↑ (Amber Filter Range)</div> <div style="margin-bottom: 10px;">- - - "OUTDOOR"</div> <div style="margin-bottom: 10px;">"AUTO"</div> <div style="margin-bottom: 10px;">- - - "INDOOR"</div> <div style="margin-bottom: 10px;">↓ (Blue Filter Range)</div> </div>	• Fair weather blue sky	10,000	• Color television	Bluish
	• Slightly cloudy sky	8,000		
	• Cloudy or rainy sky	7,000		
		6,500	• Fluorescent lamp (Daylight)	
	• Sunlight in clear weather at midday	6,000	• Camera flash bulb	
	• Average sunlight in clear weather	5,500		
	• Sunlight 2 hours after sunrise and before sunset	5,000	• Blue lamp for photography	
		4,500	• Fluorescent lamp (White)	Whitish
	• Sunlight 40 min after sunrise and before sunset	4,000	• Normal flash bulb	
		3,500	• Fluorescent lamp (Off white)	
	• Sunlight 30 min after sunrise and before sunset	3,200	• Tungsten lamp for photography	
	• Sunlight 20 min after sunrise and before sunset	2,800	• Halogen lamp	
			• Iodine lamp	
			• Tungsten lamp	Yellowish
			• Acetylene lamp	
			• Kerosene lamp	
		2,000	• Candlelight	Reddish

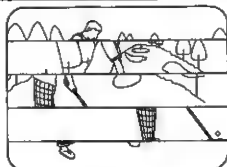
Specifications

Power Source	Palmcorder 7.2 V DC (Battery) 7.8 V DC (AC Adaptor) AC Adaptor 110/120/220/240 V AC, 50/60 Hz Battery Lithium-Ion Type DC 7.2 V
Power Consumption	Palmcorder 7.2 V DC 6.5 W (Max. 9.5 W) AC Adaptor 18 W 1 W (when not in use)
Video Signal	EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System	2 rotary heads helical scanning system
Audio	12 bit (32 kHz) 4 tracks 16 bit (48 kHz) 2 tracks
Pick-Up System and Device	One integral color filter Charge Coupled Device (CCD)
Lens	18.1 zoom lens (PV-DV51)/20.1 zoom lens (PV-DV101), F1.6 with auto iris control Focal length 3.6 mm - 64.8 mm (PV-DV51) 3.6 mm - 72 mm (PV-DV101) Power zoom function Lens filter diameter 43 mm
Viewfinder	0.4 inch (10.2 mm) Electronic Viewfinder
LCD Monitor	2.5 inch (63.5 mm) Liquid Crystal Display
Minimum Illumination Required	5 lx (F1.6) 0.5 footcandles
Digital Interface	RS-232C serial port (D-Sub 9-pin) (PV-DV101 only)
Operating Temperature	32 °F~104 °F (0°C~40°C)
Operating Humidity	10 %~75 %
Weight	Palmcorder 1.47 lbs 0.67 kg AC Adaptor 0.35 lbs 0.16 kg
Dimensions	Palmcorder 3-3/8 (W) x 4-1/4 (H) x 7-1/2 (D) inch 85 (W) x 107.5 (H) x 191 (D) mm AC Adaptor 2-3/4 (W) x 1-3/4 (H) x 4-1/2 (D) inch 70 (W) x 45 (H) x 115 (D) mm

Weight and dimensions shown are approximate
 Designs and specifications are subject to change without notice

Before Requesting Service

Cleaning Care for Video Heads



Clogged Video Head

(a) Video Head Cleaning Normally, your Palmcorder will not require head cleaning. However, it is possible that the heads may become clogged due to dust in the air, playing damaged tapes, long term use, etc. If "NEED HEAD CLEANING" appears for 5 seconds in the EVF or LCD monitor, the heads may require cleaning.

(b) Cleaning the Heads It is recommended that head cleaning be performed by a qualified service technician. Please contact your nearest Panasonic Servicenter. An alternate solution is to obtain a head cleaning cassette. Please use Panasonic cleaning cassette (AY-DVMCL). Be sure to follow the cleaning instructions carefully. Excessive use of the head cleaning cassette could shorten video head life.

Use this cassette only when a head clogging symptoms occur.

Refer servicing to qualified service personnel.

Tape Operations Caution

- When you go from function to function (PLAY, FF, REW, etc.), please note that the unit will not accept a new function operation until the previous operation is complete.
- The POWER Button and all function buttons, (PLAY, FF, REW, etc.) are only operational after the tape has been completely loaded.

Lens Hood Area Operation Caution

When the following accessories are attached and the zoom is set to maximum wide angle, the four corners of the screen may appear darker.

- Wide or Telephoto conversion lens (optional)
- A filter (optional), etc. and then the lens hood
- Two filters (optional)

Self Diagnostic System

If any of the following numbers appear on-screen, the Palmcorder may need service.

- F01 •F02 •F03 •F04 •F05 •F31 •F51 •F52 •U10 •U11

Do not remove the battery (if attached) and write down the displayed number on page 55. Then, take the Palmcorder to a servicenter for repair.

Before Requesting Service

If you have a problem with your Palmcorder, it may be something you can correct yourself.

Check the list below for symptoms and corrections.

Symptom	Correction
No picture in the EVF or LCD Monitor...	<ul style="list-style-type: none">• Make sure the Power Source is connected. (pp. 11, 12)• Make sure the POWER switch is set to VCR or CAMERA. (pp. 22, 27)• Check the Dew Indicator. (p. 21)• Make sure the Battery is fully charged. (p. 11)• Make sure all necessary cables are connected correctly and firmly. (p. 12)• Make sure the Lens Cap is removed. (p. 22)
Video cassette cannot be inserted...	<ul style="list-style-type: none">• Make sure the Power Source is connected. (pp. 11, 12)• Insert the cassette record tab up, window side facing out. (p. 9)
Video cassette cannot be removed...	<ul style="list-style-type: none">• Make sure the Power source is connected. (pp. 11, 12)
No operation starts when operation buttons are pressed...	<ul style="list-style-type: none">• Check the Dew Indicator. (p. 21)
Recording cannot be done...	<ul style="list-style-type: none">• Make sure the record tab is closed. (p. 6)• Check the Battery Indication. (p. 19)
Auto Focus does not operate...	<ul style="list-style-type: none">• Make sure FOCUS is set to AUTO. (p. 39)• Make sure the unit is ON and set to CAMERA mode. (p. 22)
Sound from microphone cannot be monitored...	<ul style="list-style-type: none">• Make sure the unit is set to REC or REC/PAUSE mode.
Sound cannot be heard...	<ul style="list-style-type: none">• Make sure the Audio in the VCR MENU is set to ST1. (pp. 17, 42)

Request for Service Notice

Please photocopy this form when making a request for service notice

Request for Service Notice:

In the unlikely event this product needs service

- Please include your **proof of purchase** (Failure to do so will delay your repair)
- To further speed your repair, please provide an explanation of what is wrong with the unit and any symptom it is exhibiting

Mail this completed form and your Proof of Purchase along with your unit to
Panasonic Services Company
1705 N Randall Road
Elgin, IL 60123-7847
Attn Camcorder Repair

Please write the displayed Self Diagnostic number here (See page 53)

Index of Controls

Front View

D ZOOM Button

See page 33

EIS Button

See page 32

Lens

Remote Sensor

See page 25

Lens Cap

See pages 8, 22

FADE Button

See page 39

A DUB Button

See page 41

BACK LIGHT Button

See page 40

MULTI Button

See page 35

Built-in Twin Capsule 2-Way Microphone System

Side View

PHOTOSHOT Button

See page 34

TAPE EJECT Switch

See pages 7, 9

Cassette Compartment Cover

See page 7

Hand Strap

See page 8

Built-in Light Mount

See page 7

PHONE Jack

See page 27

DV Input/Output (i LINK) Connector

See pages 44, 45

A/V Output Connector

See pages 31, 43

S-VIDEO Output Connector

See page 43

Index of Controls

Rear View

Electronic Viewfinder (EVF)
See pages 10, 22

Menu Button
See pages 13, 14

Battery Release Button
See pages 11, 12

POWER Lamp
See page 22

REC/PAUSE Button
See pages 10, 22

Shoulder Strap Attachment Ring
See page 8

JOG KEY
See pages 13, 14

VOLUME KEY
See page 27

M FOCUS DIAL
See page 39

POWER ZOOM Button
See page 22

Shoulder Strap Attachment Ring
See page 8

POWER Switch
See pages 9, 10

Rear View

LCD (Liquid Crystal Display) Monitor
See pages 10, 23, 27

LCD-OPEN Button
See pages 10, 23, 27

Vision Adjustment Control
See page 10

DC IN Terminal
See page 12

TO PC Connector (PV-DV101 only)
See page 46

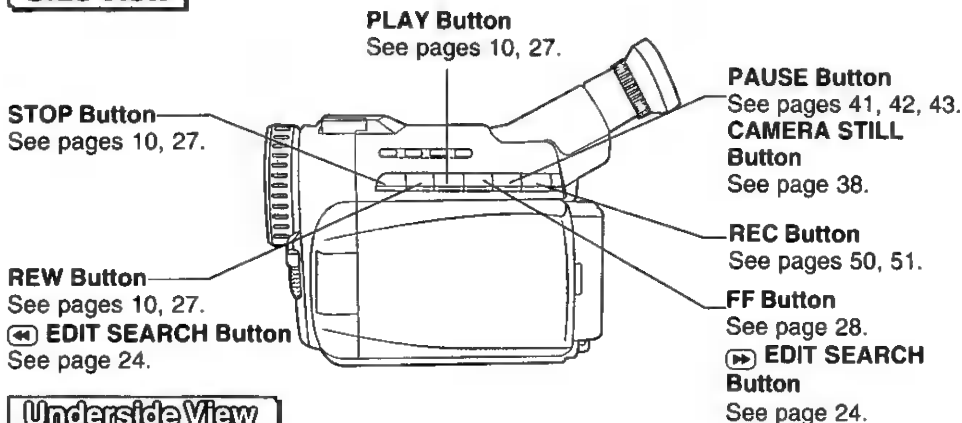
Note

• It cannot be used on model PV-DV51

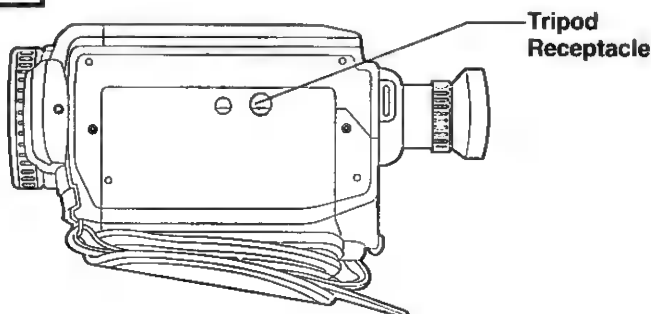
Built-in Speaker
See page 27

Index of Controls

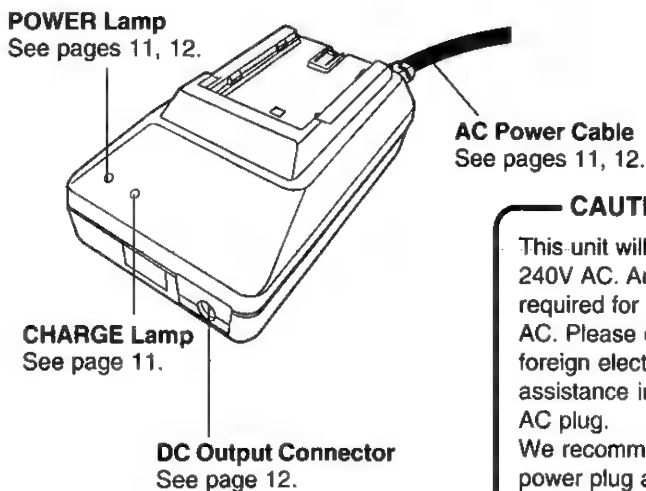
Side View



Underside View



AC Adaptor



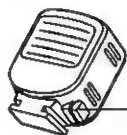
CAUTION:

This unit will operate on 110/120/220/240V AC. An AC plug adaptor may be required for voltages other than 120V AC. Please contact either a local or foreign electrical parts distributor for assistance in selecting an alternate AC plug.

We recommend using the accessory power plug adaptor (VJSS0070) in an area which has special AC outlets.

Index of Controls

Color Enhancement Light (Optional)



LIGHT RELEASE Button
See page 7



LIGHT Button
See page 7

Remote Control (Optional)

DATE/TIME Button
See pages 20, 25

DISPLAY ON TV Button
See pages 25, 31

A DUB Button
See pages 25, 41

COUNTER/TC Button
See pages 19, 25

RESET Button
See pages 25, 42

REWIND/SEARCH Button
See pages 25, 28

MENU Button
See pages 13, 14, 42

REVERSE SLOW/ F ADV Button
See pages 25, 28, 29

REVERSE INDEX SEARCH Button
See pages 25, 30, 34

STOP Button
See pages 25, 27
SET Button
See pages 13, 14, 25

PHOTOSHOT Button
See pages 25, 34

REC/PAUSE Button
See pages 22, 25

POWER ZOOM Switch
See pages 22, 25
SPKR VOL +/-
See pages 25, 27

VIDEO REC Button
See pages 25, 44

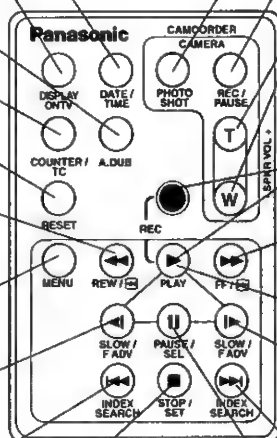
FAST FORWARD/ SEARCH Button
See pages 25, 28

PLAY Button
See pages 25, 27, 44

FORWARD SLOW/ F ADV Button
See pages 25, 28, 29

FORWARD INDEX SEARCH Button
See pages 25, 30, 34

PAUSE Button
See pages 25, 28, 44
SEL Button
See pages 13, 14, 25



Limited Warranty

Panasonic Consumer Electronics Company,
Division of Matsushita Electric Corporation
of America, One Panasonic Way
Secaucus, New Jersey 07094

Panasonic Sales Company,
Division of Matsushita Electric of Puerto Rico, Inc
AVE 65 de Infanteria, Km 9.5 San Gabriel
Industrial Park, Carolina, Puerto Rico 00985

PANASONIC/QUASAR Video Products Limited Warranty

Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the Warrantor") will repair or replace this product with new or refurbished parts or equivalent product, free of charge, in the USA or Puerto Rico, in the event of a defect in materials or workmanship as follows (all time periods commence from the date of the original purchase)

PRODUCT	PARTS	LABOR	SERVICE	CONTACT NUMBER
CAMCORDER	ONE (1) YEAR, EXCEPT CCD IMAGE SENSOR CCD IMAGE SENSOR -SIX (6) MONTHS	NINETY (90) DAYS NINETY (90) DAYS	Carry-In or Mail-In	1-800-211-PANA(7262)
DVD/VCR DECK	ONE (1) YEAR	NINETY (90) DAYS	Carry-In or Mail-In	1-800-211-PANA(7262)
DIGITAL STILL CAMERA	ONE (1) YEAR EXCEPT CCD IMAGE SENSOR CCD IMAGE SENSOR -SIX (6) MONTHS	NINETY (90) DAYS NINETY (90) DAYS	Carry-In or Mail-In	1-800-272-7033
A/V MIXER	ONE (1) YEAR	NINETY (90) DAYS	Carry-In or Mail-In	1-800-211-PANA(7262)
TV/VCR, TV/DVD/VCR COMBINATION	ONE (1) YEAR, EXCEPT CRT CRT - TWO (2) YEARS	NINETY (90) DAYS CRT - NINETY (90) DAYS	Carry-In 21" CRT and Smaller In-Home or Carry-In 22" CRT and Larger	1-800-211-PANA(7262)
TV/HDR COMBINATION	ONE (1) YEAR, EXCEPT CRT CRT - TWO (2) YEARS	NINETY (90) DAYS CRT - NINETY (90) DAYS	In-Home or Carry-In	1-888-843-9788

Batteries (if included) - New rechargeable batteries in exchange for defective rechargeable batteries for ten (10) days. Non-rechargeable batteries are not warranted.

Tape (if included) - New video cassette tape in exchange for a defective video cassette tape for five (5) days.

Memory cards (if included) - Exchange defective item for new one for ninety (90) days.

In-home, carry-in or mail-in service, as applicable, in the USA can be obtained during the warranty period by contacting a Panasonic Services Company (PASC) Factory Servicenter listed in the Servicenter Directory. Or call toll free contact number listed above, to locate an authorized PASC Servicenter. Carry-in or mail-in service in Puerto Rico can be obtained during the warranty period by calling the Panasonic Sales Company telephone number listed in the Servicenter Directory.

This warranty is extended only to the original purchaser. A purchase receipt or other proof of the date of the original purchase is required before warranty service is rendered.

This warranty only covers failures due to defects in materials and workmanship, which occur during normal use and does not cover normal maintenance, including, but not limited to, video and audio head cleaning. The warranty does not cover damage which occurs in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, set-up adjustments, improper antenna, inadequate signal pickup, maladjustment of consumer controls, improper operation, power line surge, improper voltage supply, lightning damage, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a PASC Factory Servicenter or a PASC authorized Servicenter, or damage that is attributable to acts of God.

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above.

THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGE TO RECORDING MEDIA) RESULTING FROM THE USE OF THIS PRODUCTS, OR ARISING OUT OF ANY BREACH OF THE WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights, which vary, from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the Consumer Affairs Department at the Panasonic Consumer Electronics Company address above.

SERVICE CALLS WHICH DO NOT INVOLVE DEFECTIVE MATERIALS OR WORKMANSHIP AS DETERMINED BY THE WARRANTOR, IN ITS SOLE DISCRETION, ARE NOT COVERED. COSTS OF SUCH SERVICE CALLS ARE THE RESPONSIBILITY OF THE PURCHASER.

warid 02/ 12/ 2001

Servicenter List

For Product Information, Operating Assistance, Literature Request, Dealer Locations, and all Customer Service inquiries please contact:
1-800-211-PANA(7262), Monday-Friday 9am-9pm Saturday-Sunday 9am-7am, EST.
or send e-mail : consumerproducts@panasonic.com

Web Site: <http://www.panasonic.com>
You can purchase parts, accessories or locate your nearest servicenter by visiting our Web Site.

Accessory Purchases:

1-800-332-5368 (Customer Orders Only)
Panasonic Services Company 20421 84th Avenue South, Kent, WA 98032
(6 am to 5 pm Monday - Friday, 6 am to 10 30 am Saturday, PST)
(Visa, Master Card, Discover Card, American Express, Check)

Product Repairs

Centralized Factory Servicenter

MAIL TO

Panasonic Services Company

1705 N. Randall Road,

Elgin, IL 60123-7847

Attention Digital Camera Repair

Please carefully pack and ship, prepaid and insured, to the Elgin centralized repair Factory Servicenter. While there will be added handling delays, you may bring your unit to one of the following locations who will then forward the unit to Elgin for repair.
Customer's in Puerto Rico, please ship or carry in to location below ("Service in Puerto Rico")

Factory Servicenters Locations

CALIFORNIA

6550 Katella Avenue
Cypress CA 90630
800 Dubuque Avenue
S. San Francisco,
CA 94080

3878 Ruffin Road
Suite A
San Diego CA 92123

COLORADO

1640 South Abilene
Street Suite D
Aurora CO 80012

FLORIDA

3700 North 29th Avenue
Suite 102
Hollywood, FL 33020

GEORGIA

8655 Roswell Road
Suite 100
Atlanta, GA 30350

ILLINOIS

9060 Golf Road
Niles, IL 60714
1703 North Randall Road
Elgin IL 60123
(Pick-up / Drop-off only)

MARYLAND

62 Mountain Road
Glen Burnie MD 21061

MASSACHUSETTS

60 Glacier Drive,
Suite G
Westwood MA 02090

MINNESOTA

7850-12th Avenue South
Airport Business Center
Bloomington, MN 55425

OHIO

2236 Waycross Road
Civic Center Plaza
Forest Park, OH 45240

PENNSYLVANIA

2221 Cabot Blvd. West
Suite B
Langhorne, PA 19047

TEXAS

13615 Welch Road
Suite 101
Farmers Branch,
TX 75244

WASHINGTON

20425-84th Avenue
South
Kent, WA 98032

HAWAII

99-859 Iwaiwa Street
Aiea, Hawaii 96701
Phone (808) 488 1996
Fax (808) 486-4369

Service in Puerto Rico

Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company/Factory Servicenter: Ave. 65 de
Infanteria. Km. 9.5 San Gabriel Industrial Park Carolina, Puerto Rico 00985
Phone (787) 750-4300 Fax (787) 768-2910

As of January 2001

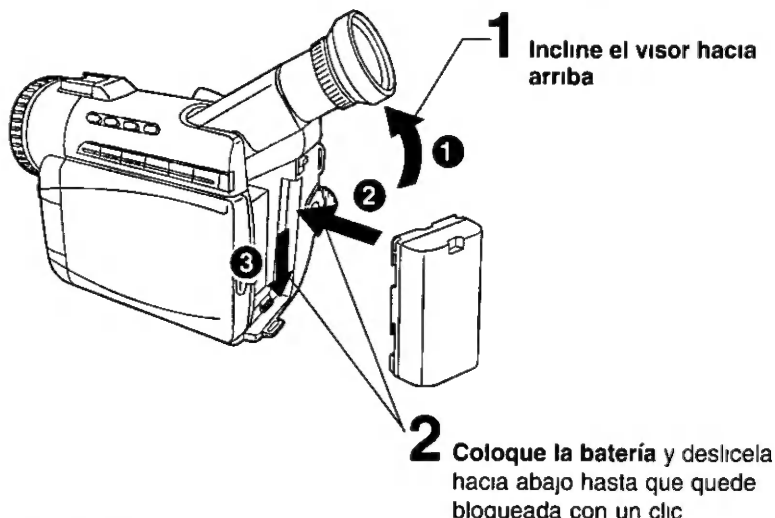
For Your Information

Spanish Quick Use Guide/Guía Para Uso Rápido

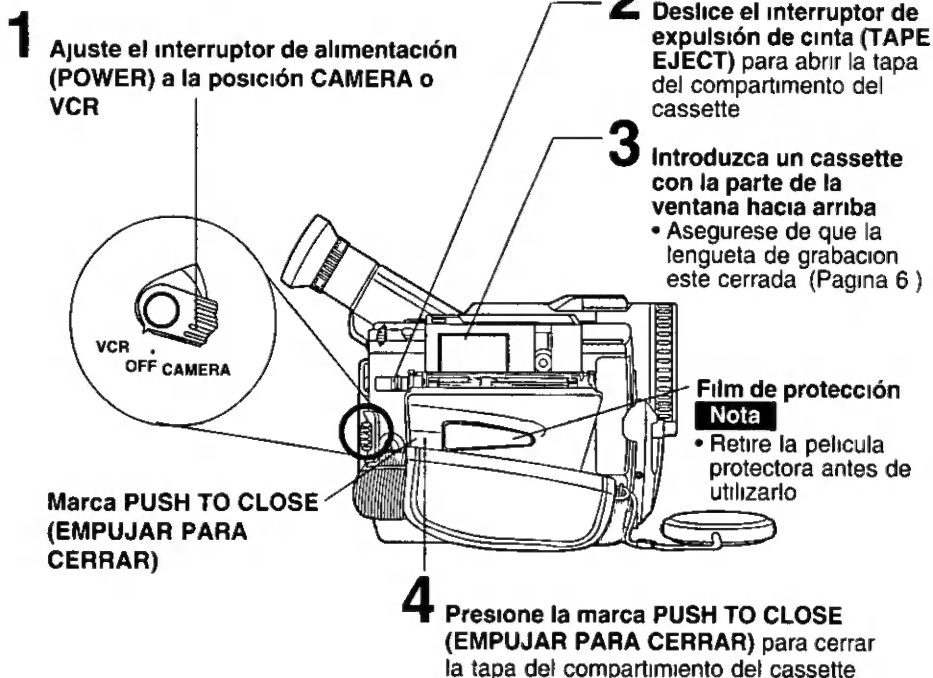
Inserte de la batería

Antes de comenzar

- Cargue la batería (Página 11)



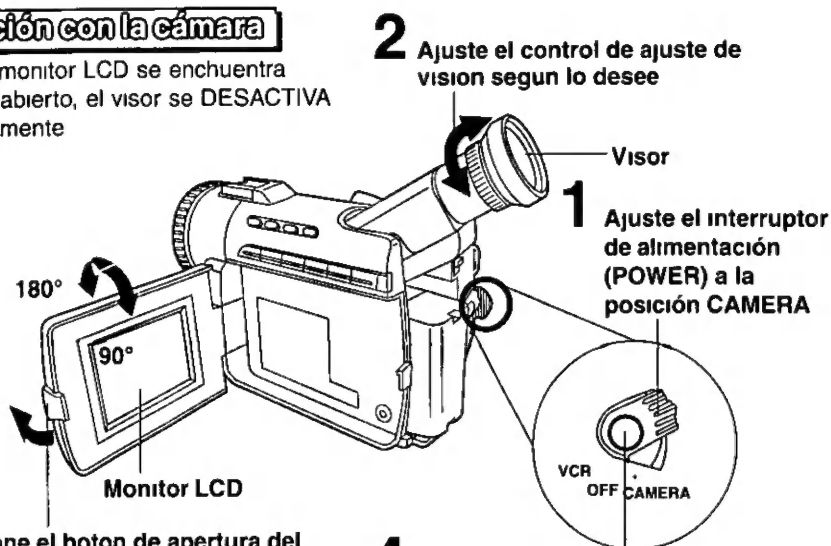
Inserte el Cassette



Spanish Quick Use Guide/Guía Para Uso Rápido

Grabación con la cámara

Cuando el monitor LCD se encuentra totalmente abierto, el visor se DESACTIVA automáticamente



- 3** Presione el botón de apertura del LCD (LCD-OPEN) para desbloquear el monitor LCD. Balancee abriéndolo completamente y ajuste el ángulo

- 2** Ajuste el control de ajuste de visión según lo desee
- 4** Presione el botón de grabación/pausa (REC/PAUSE) para iniciar la grabación. Vuelva a pulsar el botón de grabación/pausa (REC/PAUSE) para hacer una pausa en la grabación

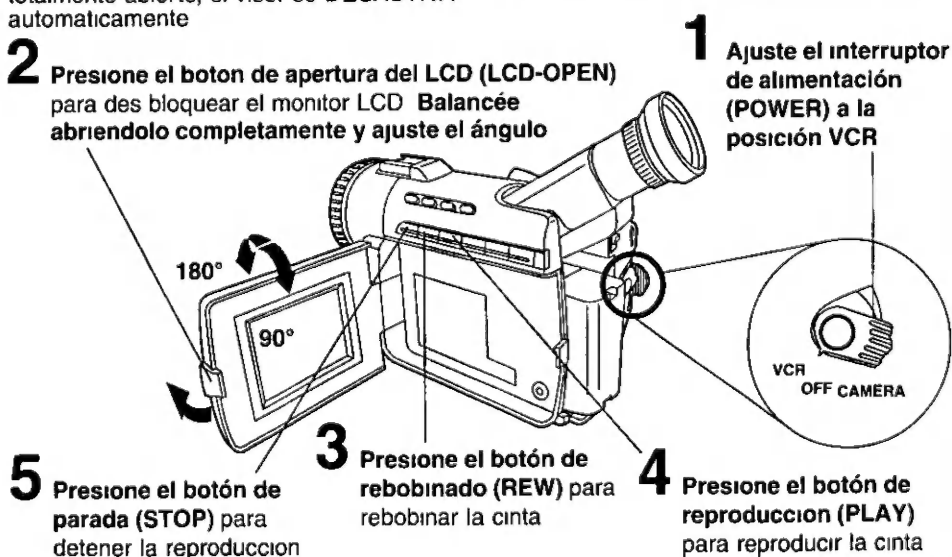
Para ver la reproducción en el LCD (pantalla de visualización de cristal líquido)

Cuando el monitor LCD se encuentra totalmente abierto, el visor se DESACTIVA automáticamente

- 2** Presione el botón de apertura del LCD (LCD-OPEN) para desbloquear el monitor LCD. Balancee abriéndolo completamente y ajuste el ángulo

Antes de comenzar

- Cargue la batería (Página 11)



- 5** Presione el botón de parada (STOP) para detener la reproducción
- 3** Presione el botón de rebobinado (REW) para rebobinar la cinta
- 4** Presione el botón de reproducción (PLAY) para reproducir la cinta

For Your Information

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Panasonic Consumer Electronics Company, Division of Matsushita Electric Corporation of America
 One Panasonic Way Secaucus,
 New Jersey 07094

Panasonic Sales Company ("PSC"), Division of Matsushita Electric of Puerto Rico, Inc
 Ave 65 de Infanteria Km 9 5
 San Gabriel Industrial Park
 Carolina Puerto Rico 00985



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